The Milroy Lectures

ON

PUBLIC HEALTH AND HOUSING:

THE INFLUENCE OF THE DWELLING UPON HEALTH IN RELATION TO THE CHANGING STYLE OF HABITATION.

Delivered before the Royal College of Physicians of London, on Feb. 28th and March 5th and 7th, 1901,

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LECTURE II.[1]

Delivered on March 5th, 1901.

TENEMENT HOUSES.

MR. PRESIDENT AND GENTLEMEN,—The only statistics available in reference to the old type of vertical houses sublet in separate dwellings or tenements are those derived from insanitary areas as a whole, and these areas embrace also some other types of houses. However, the inference to be drawn generally from these statistics is that these houses produce a very unfavourable influence upon health, especially amongst children, and conduce to the acquirement of infectious diseases and to the prevalence of phthisis and respiratory diseases.

UNDERGROUND DWELLINGS.

Underground dwellings are mostly found in tenement houses and it is to be regretted that there are no statistics available in reference to this class of dwellings. An investigation into their mortality and morbidity would be of considerable value. The only statistics that give some indication are from Berlin as quoted in the table below in reference to the mortality in the several stories of dwelling-houses. From this table it appears that in houses of six storeys and over the order of mortality from lowest to highest occurs on the first, second, ground, and third storeys, the basement, and the fourth floor.

TABLE I.—*Mortality in Berlin according to the Storeys in Dwelling Houses.*[2]

Storeys of dwelling-houses.	Of every 1000 of inmates died.		
	1875 to 1878.	1880 to 1881.	1885 to 1886.
Basement	35·6	23·6	21·1
Ground floor	29·4	21·3	20·4
First floor	28·6	20·6	18·4
Second floor	29·2	22·3	18·8
Third floor	32·9	22·0	19·0
Fourth and fifth floors ...	36·5	28·5	21·4

It is surmised that the domestic circumstances of those living in the basement are doubtless better than those of the inmates of the fourth and fifth floors, and that this accounts for the slightly lower mortality.

"FLAT" HOUSES.

An investigation into the statistics of Peabody Buildings in London was made by Dr. A. Newsholme[3] in 1888-90, and he came to the following conclusions:—1. In the year 1890, contrary to expectation, and notwithstanding the high birth-rate, the age distribution of the population of the Peabody Buildings was less favourable to a low mortality than that of London as a whole. 2. The death-rate of the Peabody Buildings averaged about two per 1000 lower than that of London during the 12 years ending with 1885. During the four subsequent years the death-rate of the Peabody Buildings has remained about stationary, while that of London has shown a further decline, thus making the metropolitan death-rate approximate more closely to that of the Peabody Buildings. 3. The death-rate at different groups of ages is lower in the Peabody Buildings than for the whole of London with the exception of the ages from 0 to 5 years and from 15 to 25 years. 4. The infantile mortality is much lower in the Peabody Buildings than for all London. During the nine years from 1882 to 1890 it averaged in London 151·9 per 1000 births and in the Peabody Buildings 139·2 per 1000 births. 5. The death-rate from diarrhœa is slightly lower and from enteric fever only half that of the whole metropolis. 6. On the other hand, the diseases more directly due to direct infection (scarlet fever, diphtheria, and still more, whooping-cough and measles) are more fatal, and therefore probably more prevalent. If the Metropolitan Asylums Board would admit cases of measles into their hospitals the mortality from measles might be very much reduced. 7. The death-rate from phthisis and other tuberculous diseases is slightly higher in the Peabody Buildings than for all London. 8. Farr's formula as to the increased mortality with increased density of population has no application to the Peabody Buildings. 9. The true density that should be considered is the number of persons to each room, not the number of persons to a given acre.

The medical officer of health of St. Giles, Mr. S. R. Lovett, has kindly supplied me with the records he has kept through a series of years of the population, births, and deaths in four large blocks of buildings in St. Giles.[4] The numbers are not large, but the figures extend over a period of 10 years and have been carefully recorded and corrected for public institutions. These are set out in Tables II. and III., together with the corresponding figures for St. Giles district and for London. Comparing the buildings in St. Giles and in London for 10 years, from 1890 to 1899, the percentage of population under five years was respectively 17·0, 10 1, and 11·9 per cent.; the birth-rate was 37·3, 27·6, and 30·4 per 1000 of population; the mortality under one year of age per 1000 births was 130, 153, and 160; the death-rate under five years of age per 1000 population under five years of age was 50·7, 76·9, and 65·6; the death-rate over five years of age per 1000 population over five years was 10·4, 16·3, and 13·6; the death-rate at all ages per 1000 population at all ages was 17·3, 21·3, and 19·8; and the death-rate from the seven principal zymotic diseases was 3·0, 2·1, and 2·7.

Comparing these statistics with the results obtained by Dr. Newsholme, and taking his conclusions *seriatim*: 1. The age distribution appears to have varied. In 1881 in London 13·1 per cent. of the population were under five years of age, in 1890-99 the percentage was 11·9 only. 2. The death-rate in Peabody Buildings, which was from 1881 to 1885 about two per 1000 lower than in London, was from 1890 to 1899 in St. Giles's buildings about 2·5 lower than London. 3. The infantile mortality, which was 139 per 1000 births in Peabody Buildings compared with 152 in London, was later 130 in St. Giles's buildings, compared with 160 in London. The birth-rate, however, in the later period was three per 1000 lower in the buildings and a trifle higher in London. 4. The death-rate in the later period from diarrhœa was considerably lower, and from enteric fever only half that of London, the latter in exactly the same ratio as in the earlier period. 5. The death-rates in the later period from scarlet fever and from diphtheria, especially from the former, were higher in the buildings than in London. From whooping-cough the London rate was higher. These results compared in tabular form appear in Table IV.

Therefore, on the whole, the figures of the later investigation in the main follow the earlier, for although whooping-cough comes out much better measles comes out much worse, and the conclusion is confirmed that the diseases due to direct infection are more prevalent in buildings composed of multiple dwellings. An indication that the most important considerations lie in the density of persons in rooms, of rooms in dwellings, and of dwellings in houses, and that not merely density in rooms but in the three-fold sense of density in cubic space rather than square space, lies the key to the prevention of morbidity and mortality.

Although it has been shown that in Peabody Buildings, when compared with London or its districts, the death-rates are lower except those from infantile infectious diseases, two important facts must be remembered: (1) that the population of these buildings is a selected one living under special conditions, and (2) that of the population of all London some are living in old unhealthy houses

[1] Lecture I. was published in THE LANCET of March 2nd, 1901, p. 599.
[2] Boeckh: Statistische Jahrbuch der Stadt Berlin, Bands 4 and 14.
[3] Vital Statistics of Peabody Buildings, &c., Journal of the Royal Statistical Society, 1891.
[4] See also Annual Reports of St. Giles from 1890 to 1899.

TABLE II.—VITAL STATISTICS OF BUILDINGS IN ST. GILES FROM 1890 TO 1899.

—	Population.			Annual number of births.	Birth-rate per 1000 population.	Annual number of deaths under one year.	Infantile mortality per 1000 births.	Annual number of deaths.			Death-rates.		
	Under five years.	Five years and over.	Total.					Under five years.	Five years and over.	Total all ages.	Per 1000 under five years.	Per 1000 five years and over.	Per 1000 all ages.
Peabody Buildings, Great Wild-street ...	242	1,139	1,381	52·6	37·8	5·6	106	11·9	12·3	24·2	49·2	10·8	17·5
Peabody Buildings, Little Coram-street (Herbrand-street) ...	134	651	785	31·6	40·2	5·0	158	7·3	4·9	12·2	54·5	7·5	15·5
Model Buildings, Streatham-street ...	25	173	198	5·0	25·3	0·6	120	1·0	2·1	3·1	40·0	12·1	15·7
Thurstan Dwellings and Holland Dwellings, Newton-street	37	178	215	7·3	33·9	1·3	178	2·0	3·0	5·0	54·0	16·8	23·3
Total—Buildings ...	438	2,141	2,579	96·5	37·3	12·5	130	22·2	22·3	44·5	50·7	10·4	17·3
St. Giles ...	3,956	35,612	39,258	1,094	27·6	187	153	274	582	847	76·9	16·3	21·3
London ...	519,404	3,841,491	4,360,895	132,663	30·4	21,259	160	34,077	52,202	86,279	65·6	13·6	19·8

TABLE III.—DEATHS FROM THE PRINCIPAL ZYMOTIC DISEASES IN ST. GILES FROM 1890 TO 1899.

	Population.	Percentage under five years.	Number of deaths from								Total number of zymotic deaths.	Zymotic death-rate per 1000 population.
			Small-pox.	Scarlet fever.	Diphtheria and membranous croup.	Enteric fever.	Typhus and continued fever.	Measles.	Whooping-cough.	Diarrhœa.		
Peabody Buildings, Great Wild-street...	1,381	17·5	0·0	0·3	1·0	0·0	0·0	1·9	0·4	1·0	4·6	3·3
Peabody Buildings, Little Coram-street (Herbrand-street)	785	17·0	0·0	0·3	0·3	0·2	0·0	0·5	0·5	0·3	2·1	2·7
Model Buildings, Streatham-street	198	12·6	0·0	0·2	0·1	0·0	0·0	0·0	0·0	0·0	0·3	1·5
Thurstan Dwellings and Holland Dwellings, Newton-street	215	17·2	0·0	0·0	0·1	0·0	0·0	0·2	0·3	0·2	0·8	3·7
Total—Buildings	2,579	17·0	0·0	0·8	1·5	0·2	0·0	2·6	1·2	1·5	7·8	3·0
St. Giles	39,258	10·1	0·6	4·6	10·6	6·8	0·0	23·2	15·8	20·9	82·5	2·1
London	4,360,895	11·9	43·1	868·6	2177·0	611·3	24·0	2687·9	2315·1	3246·2	11973·2	2·7

TABLE IV.

—	Percentage of population under five years.	Death-rate per 1000 population.			Deaths per 1000 population from					
		At all ages.	Under five years.	Under one year.	Diarrhœa.	Enteric fever.	Scarlet fever.	Diphtheria.	Whooping-cough.	Measles.
Peabody Buildings, 1888–89 ...	10·9	16·49	59·1	128	0·56	0·07	0·34	0·53	0·85	1·0
London, 1888–89	13·1	17·96	55·8	143	0·57	0·14	0·22	0·33	0·55	0·55
Buildings in St. Giles, 1890–99.	17·0	17·3	50·7	130	0·68	0·07	0·31	0·58	0·46	1·0
London, 1890–99	11·9	19·8	65·6	160	0·74	0·14	0·19	0·49	0·53	0·61

and some even in whole areas of old unhealthy houses. In reference to "model dwellings," as they were then called, as Mr. Gatliff[1] put it 25 years ago, the inmates of these houses undergo a two-fold process of selection, firstly, the inmates select these houses as harmonising with their decent tastes, and in the second place, they are chosen from a long list of applicants according to the discretion of the manager. Houses in flats, such as Peabody Buildings, are also kept under strict supervision by resident superintendents, so that both the buildings and the tenants are maintained healthily, accidental nuisances are immediately remedied, and wilful nuisances are promptly stopped. Tenants who do not conform to the rules and regulations or who are otherwise objectionable either leave because they feel out of their element or are firmly persuaded to quit, so that only those who lead well-ordered lives in well-cared-for dwellings, in association more or less with those of similar inclinations, remain. In other words, the comparative healthiness of Peabody Buildings is due as much to improved supervision of usage as to improved methods of construction.

It is for these and other reasons that any comparison between the statistics as to the houses demolished on an insanitary area and of the new buildings erected on the site would be of little value. The changes effected are radical alterations. The width of the streets is increased, the building area is diminished, the height and size of the new houses are increased, and the dwellings are expanded through a larger amount of cubic space. The conditions for the admission of external light and air are improved, the conditions for the supply of pure water and the removal of foul are ameliorated, and the opportunities for dampness and

[1] On Improved Dwellings and their Beneficial Effect on Health and Morals, Journal of the Royal Statistical Society, 1875.

effluvia are absent. But in addition there is a fundamental change in the class of the population; those displaced never become the occupants of the new buildings, and whatever class of new building is erected they never will become occupants. The pick of a neighbourhood will always enter the newest and best type of dwellings and the residuum of the neighbourhood will always seek the oldest and worst.

DISEASED HOUSES.

The association of certain houses with certain diseases is a mode of classification adopted by many investigators. That communicable forms of disease should be associated with infected houses is undoubted, and "consumptive houses" are amongst this class. Pathogenic bacteria find within the dwelling more congenial soil than in the open air, and when they are not introduced by infected individuals they may be by the clothing and by the feet, or by animals and by insects. Although investigation has also been extended to "pneumonia houses," and suspected "cancer houses," these classes of houses must rather be regarded as suffering from infection remediable more by isolation, disinfection, and cleanliness, than by improved construction and usage.

EFFECTS OF CERTAIN DEFECTS OF DWELLING-HOUSES.

Most of the faults of the construction and arrangements of dwellings give rise to impure air and may be classed as air deficiencies and effluvia. Under this head, in addition to the curtailment of cubic space, would come want of perflation and ventilation, want of cleanliness, defects of drainage and of the removal of solid refuse, and unhealthy conditions of the surface and subsoil of the site and surroundings. The only conditions that may be regarded apart from deficient and impure air are coldness, dampness, deficient light, deficient water-supply, and general atmospheric impurity.

Atmospheric impurity.—Commencing with the last-mentioned first, it is an unavoidable consequence of the aggregation of communities that the atmosphere of a town in which the population lives immersed, from which it draws freely and continuously its air-supply, and into which it casts equally freely and continuously its gaseous emanations, should suffer deterioration. The ozone disappears, the oxygen diminishes, and the carbonic acid increases in relative proportion,[6] and gaseous and suspended impurities are added. The reduction of these impurities, especially smoke and fumes, is the work of municipalities, by supervision and by contributing towards restoring the balance in the composition of the atmosphere, by the provision of open spaces and vegetation.

Air-supply.—Air-supply is found wherever a community settles, but water-supply must be sought. The accessibility or facility of water-supply determines the locality of settlement, and the growth of the community is largely determined by the amount and the health by the purity. Private and public ownership, intermittent and constant service, are stages in the water-supply of towns and cities and, as Dr. G. V. Poore[7] has pointed out, high pressure and constant water-supply, combined with prompt water-carriage removal of excreta, has increased the aggregation of the population of European and American cities by enabling dwellings to be piled one upon another many storeys high. This process of piling upwards is of more recent growth in London than in continental cities, and as a newer departure, and less understood structurally, it is of great importance at this period in its possible effects upon health.

Water-supply.—The principles of general water-supply may be said to be now fairly well known both in their application to public supply and private service, so that our cities are spared the serious effects of impure or polluted water—effects so well known as not to require re-statement. The main points that interest us at the moment are sufficiency and accessibility. The constant high-pressure system supplies the sufficiency, but the accessibility is not to be found, especially in ordinary vertical houses, sublet in many dwellings or tenements where the difficulties of the maintenance of cleanliness are increased by the closer and closer aggregation of population and a premium is placed upon the use of water by the vertical and horizontal distance through which it has to be carried to and fro. *Mutatis mutandis*, similar observations apply to drainage, and the distance to be traversed in sublet or tenement houses, especially by those on the upper floors, to get rid of liquid refuse and fouled water, also militates strongly against cleanliness, and cleanliness largely influences the purity of the air of interiors.

Deficient light.—Darkness is known to cause anæmia and to retard the development of animals, and the younger the animal the greater the effects.[8] In the absence of light plants etiolate, without light there is no fructification, and few plants can flower without direct sunshine. Direct sunshine, and even diffused daylight, warms and dries, sets up air-currents, removes stagnant air, dissipates humidity, resolves unstable compounds and conduces to cleanliness, and the absence of light produces the opposite result. Darkness favours the growth of cryptogamic plants, and the most lowly organisms flourish best in semi-darkness, notably, the moulds and the bacteria. On the contrary, the higher plants and animals are most benefited by light, which is destructive to the lower organisms which number amongst them the injurious pathogenic organisms of man. Tyndall, Downes, Duclaux, Koch, Roux, Raum, Ransome, and many others have shown by experiment that light is inimical and darkness beneficial to micro-organic life. The bacilli of anthrax, diphtheria, and tuberculosis have so responded, and many other pathogenic and non-pathogenic organisms, including the pneumococcus, and the pyogenic cocci. The most recent experiments[9] are upon tuberculous sputum, and they have shown that one hour's drying and exposure to direct sunlight has destroyed its virulence, and that from four to seven hours' exposure to diffuse light in all cases markedly diminished its virulence and in some instances destroyed it. Briefly, the indications of experiment and observation are that the healthiness of the dwelling in this country increases in proportion to the amount of daylight and sunlight admitted.

Dampness.—Marshy soil has from time immemorial been associated with malaria and ague, and it is now known that stagnant surface water in the neighbourhood of dwellings is the breeding-ground for the larvæ of mosquitoes that act as carriers of the parasites of malaria from infected to uninfected individuals. Wetness of the soil or subsoil is also known to predispose the dwellers upon it to throat-soreness, rheumatism, respiratory diseases, and phthisis. The earliest indication in this country of the effect of damp subsoil was given by Sir George Buchanan in his inquiry of 1865, upon which Sir J. Simon said[10] that the statistics indicate "that the drying of soil which has in most cases accompanied the laying of main sewers in the improved towns has led to the diminution more or less considerable of phthisis"; and he cited the reduction in the death-rates of the first 15 towns in Dr. Buchanan's table as being in Salisbury 49 per cent. of its previous rate, in Ely 47 per cent., in Rugby 43 per cent., in Banbury 41 per cent., in Worthing 36 per cent., in Macclesfield 31 per cent., in Leicester 32 per cent., in Newport 32 per cent., in Cheltenham 28 per cent., in Bristol 22 per cent., in Dover 20 per cent., in Warwick 19 per cent., in Croydon 17 per cent., in Cardiff 17 per cent., and in Merthyr 11 per cent. Dr. Bowditch of Boston, U.S.A., had in 1862 arrived at similar conclusions, which were subsequently published. Dryness of the site and of the house are recognised as essential to a healthy dwelling. More recently[11] the effect of drying upon the virulence of cultivations of tubercle bacillus and of tuberculous sputum, the specimens being kept in the dark in closed capsules with access of little air, has shown that moderate desiccation slightly retards the first manifestations of tuberculosis and prolonged drying ultimately kills the bacillus. All our largest towns are now sewered, and drying of the soil and subsoil is regarded as essential, as well as the prevention of the rising of dampness through floors and up walls and the soakage of wetness through roofs and down walls.

Coldness.—This is essentially a characteristic of jerry-built houses. These houses are so styled more on account of the inferior materials and bad workmanship in the carcasses than of the rough fitting and finishing, or of the scamped fitting of insanitary appliances. The fitting of green or unseasoned woodwork and joinery, and the finishing with plaster containing no hair, are apt to check themselves at the end of a short time. The laying of porous, crumbling bricks, with mortar deficient in lime, to sustain "shaky" or splitting timber, is controlled more or less by

[6] Angus Smith: Air and Rain.
[7] The Dwelling House, 1897.

[8] W. F. Edwards, M.D.: Influence des Agens Physiques sur la vie, 1824.
[9] P. Jousset: Comptes Rendus des Séances de la Société de Biologie lii., 1900.
[10] Ninth Annual Report to the Privy Council, 1866.
[11] Ransome: Tuberculosis, Weber-Parkes Prize Essay, 1897.

the surveyor or building inspector, who also now requires damp-courses in the walls, concrete in the basement, and dry areas around the building. The main characteristics of jerry-built dwelling-houses are deficient dryness and deficient equability of temperature. Popularly they are said to be cold and damp, the dampness coming directly through the walls and the coldness being also due to this flimsiness. Increased vigilance and building by-laws have made it much less easy to build this class of house, and this to the advantage of public health, as, apart from other insanitary conditions, the coldness and dampness within the dwelling are not only injurious themselves but indirectly they lead to the closure of all openings and the stagnation of air in order to obtain more warmth.

Air-deficiency.—The ill-effects of deficient wind-play in narrow streets, want of perflation as seen in extreme cases in back-to-back houses, and insufficient cubic space in dwellings curtailed in size, and crowding in the dwelling-rooms, have already been dwelt upon. In addition to respiration the air is fouled by combustion, which in better-class houses generally takes place by the use of excessive gas-light, but in poor tenement houses the smoky chimney almost invariably adds to the foulness of the air, and the components of coal smoke we know are prejudicial to health. The smoky chimneys indicate also the want of ventilation in such houses, in some almost amounting to stagnation. The ill-effects of stagnation of air are also demonstrated by the "dry-rot" that sets in below unventilated floors, the absence of air-currents not removing condensed moisture, and the fungus spores which are deposited flourishing in an equable temperature, in darkness and quiescence. It has also been shown by experiment [12] that finely divided tuberculous matter and tuberculous sputum in free currents of air are rapidly deprived of virulence, and in the absence of currents of air the bacillus retains its power for long periods of time.

Effluvia.—The surface soil is a great collector of decomposing refuse matter and micro-organisms which in dry weather may be wafted by the air and in wet weather may be carried by the foot of man or animals into houses and so contaminate the air of dwellings and food. Pathogenic organisms find in the dwelling the most favourable warmth and nutriment conducive to their growth and distribution. Dr. Sidney Martin [13] conducted a series of laboratory experiments upon virgin soils and organically polluted soils with a view to ascertaining the results when inoculated with the typhoid bacillus. The virgin soils, both peaty and sandy, after inoculation with various typhoid cultures and incubation at various temperatures showed no sign of growth whatever when tested at the end of 14 days, 20 days, and 23 days. On the other hand, the organically contaminated soils from the neighbourhood of habitations, after sterilisation and inoculation with the typhoid cultures, showed that either a part or the whole of the experimental soil had become pervaded by the growing bacillus, the results varying in extent with temperature and moisture, but also showing that the growth and diffusion take place at ordinary temperatures of the atmosphere. Dr. Martin has also shown that this multiplication is still going on at the end of many months. In 1896–97 Dr. John Robertson, [14] the medical officer of health of Sheffield, made a series of out-door experiments, inoculating patches of soil by drenching the surface with typhoid cultivations in bouillon diluted with water, the superficial surface of the soil having been removed and replaced. The results showed that the typhoid organism is capable of growing rapidly in certain soils and that under certain conditions (presumably continued pollution) the organism can survive from one summer to another in spite of rain and snow, frost and heat. Some laboratory experiments on similar soil went to show that vegetation such as grass was detrimental to the growth of the organism. Following upon this Dr. P. Boobbyer [15] made a statistical investigation into the distribution during the 10 years from 1887–96 of typhoid fever cases among houses in Nottingham furnished with different types of closets, and he found that the proportional annual incidence in midden-privy houses was one case in 37 houses, in pail-closet houses one in 120, and in water-closet houses one case in 558 houses—that is, that the incidence upon houses with privies was more than three times as great as that upon houses with pail-closets, and that upon houses with pail-closets more than four and a half times greater than that upon houses with water closets. Further, he found that the disease is much more liable to recur after it has arisen in the privy houses and the pail-closet houses than in the water-closet houses. In 1897, of the 41 second consecutive cases that occurred in single houses, 37 were in pail-closet houses, four were in privy houses, and there were none in water-closet houses. Of the 11 third consecutive cases that occurred in single houses, eight were in pail-closet houses, three were in privy houses, and there were none in water-closet houses. Of the four fourth consecutive cases in single houses all were in pail-closet houses. He pointed out that the closet-pail is essentially only a small portable privy above ground, and is capable of polluting the air, the soil, and the surroundings almost as much as the privy, especially by spilling and leakage in scavenging. It has been proved by experiments [16] upon rabbits, guinea-pigs, and rats, and has been confirmed, that the inspiration of putrid gases predispose the animals to the pathogenic action of even attenuated typhoid bacilli and of bacterium coli; that this predisposition is due to the combination of gases given out by putrid fermentations, and not to any one separately; and that it is probable that this experimental predisposition is diminished by prolonged breathing of the said gases. In other words, that the gases from drains, from sewers, and from other polluted sources predispose those who inhale them sufficiently, and especially new-comers, to enteric fever. These gases lower nutrition and vitality and probably tend to predispose to other ailments. In addition to enteric fever, it is very generally admitted that sewer-gas may cause sore-throat, and it is well known that persons suffering from sore-throat are susceptible to diphtheria and to scarlet fever. Septic poisoning, or blood-poisoning, has frequently been found associated with sewer-gas, and its congeners, puerperal fever and pneumonia, have often followed. Diarrhœa, too, has been attributed to foul gases either indirectly or directly. Professor Corfield [17] has given a large number of instances illustrating the close connexion between sewer-gases and these diseases. Ground vapours also produce their ill-effects. By experiment it has been shown that condensed organic vapour from ground-air or from human breath [18] forms an excellent cultivating medium for the bacillus of tubercle when away from the influence of fresh air and sunlight or daylight. This power of promoting growth is particularly manifest when the supporting substance is common wall-paper. On this substance the growth of the bacillus may take place at the ordinary temperature of dwelling-rooms. Ground vapours from below dwelling-houses, being foul and damp, are also known to pollute the air of interiors, to deteriorate the health of the inmates, and to predispose them to disease.

All these experiments and observations indicate the necessity for such construction, maintenance, and usage as best conduce to the cleanliness and purity of the air in and around dwelling-houses in order not only to prevent disease, but also to prevent the loss of that vitality, vigour, and energy which cannot easily be measured by experiments or by statistics.

CONSTRUCTION AND MIS-CONSTRUCTION.

1. *Streets, street-blocks, and houses; front and rear space.*—The hygienic influence of sunshine and daylight, of wind and breeze, in dispelling dampness, destroying micro-organisms, and dispersing gaseous and suspended impurities, has been proved by experiment and experience. Therefore the direction and width of streets and the height of houses are important points in their influence upon dwellings and health. The orientation of streets may be either squarely or diagonally in line with the four cardinal points. As the main object of orientation is to provide the maximum of sunshine to houses, the rear as well as the front must be considered. When houses are constructed in parallel rows, with open interspaces, so that there are no houses in the streets at right angles, as is sometimes seen in recently erected blocks (Fig. 1, *a*), the square orientation obtains the fullest and most equable distribution of sunshine. But when houses are built around all four sides of rectangular street-blocks then the diagonal orientation secures most sunshine, although with complete enclosure of the central space the rear receives less perflation—the common form of construction of street-blocks (Fig. 1, *b*).

[12] Ibid.

[13] Supplement to the Report of the Medical Officer of the Local Government Board, 1896–97.

[14] Brit. Med. Jour., Jan. 8th, 1898.

[15] Annual Report of the Medical Officer of Health of Nottingham, 1897.

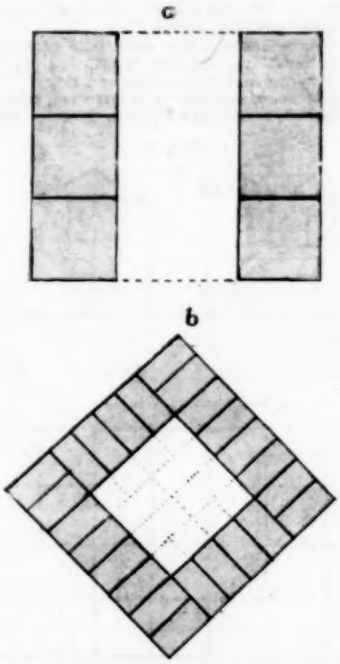
[16] Dr. Giuseppi Alessi: On Putrid Gases, &c., Journal of the Sanitary Institute, vol. xvi., 1895.

[17] Diseases and Defective House Sanitation, 1896.

Dr. A. Ransome, F.R.S.: Proceedings of the Royal Society, vol. lxii.

In a street oriented east and west the front of the buildings on the south side of the street and the back of those on the north side are deprived of sunshine, and in order that the front of those on the north side and the rear of those on the south side may obtain sunshine it would be necessary, according to the estimate of Clement, to increase the width

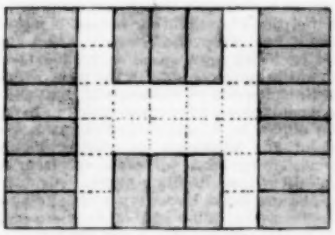
FIG. 1.



a. Shows a method sometimes adopted for new blocks of buildings with streets around. b. Shows a common arrangement of existing street blocks of houses, the internal spaces being more or less built over.

of "east and west" streets and rear spaces in 60 degrees of latitude (e.g., Stockholm) to more than seven times the width of those in 40 degrees of latitude (e.g., Madrid) and, according to the estimate of Trélat,[19] to widen streets north and south twice, and streets east and west four times, the height of the houses bordering them. Both of these are impracticable, so Arnold has concluded that the orientation of streets is beyond exact control, and attention should rather be directed to limiting the height of houses in relation to the width of streets. It must also be remembered that a north light without sunshine is preferable for many industrial and artistic occupations. Whilst admitting that the front and rear spaces of houses in east and west streets require to be wider than those in north and south streets, the practical limit has been adopted that houses should not exceed in height the width of the open spaces at the front and at the rear, but as only half the space at the rear is assumed to belong to one house the house is permitted to be raised twice the height of the width of its own rear space, applying the 45-degree angle to the front and the 63½-degree angle at the rear. This is the principle embodied in the London Building Acts, 1894 and 1898, although its application is limited to new buildings and new streets. Briefly the provisions of these Acts are as follows.[20] No new dwelling-house may be erected so as to exceed 80 feet in height (exclusive of two storeys in the roof) without the consent of the London County Council (Sections 47, 48, 49, and 50 of the 1894 Act). The height of a dwelling-house erected in a street less than 50 feet wide and laid out after August 7th, 1862, must not exceed the measurement between the front wall of the building and the opposite side of the street (Section 49 of the 1894 Act). Working-class dwellings are specially limited as to height, where they are (whether on old foundations or not) within 20 feet of the centre of any highway, at whatever date laid out. The height of the dwelling-house in such case must not, without consent of the Council, exceed the measurement between its front wall and the opposite side of the street (Section 13 of the 1894 Act). All dwelling-houses abutting on streets are further limited in height by the air-space provided at the rear of them. On a street laid out after 1894 the height may not exceed twice the open space behind it. This open space must be of an aggregate extent of not less than 150 square feet. On a street laid out before 1894 the height may not exceed twice such depth with an addition of 16 feet. The open space behind the building may in general be covered up to a height of 16 feet, but this is not allowed in the case of working-class dwellings (Section 41 of the 1894 Act). Working-class dwellings not abutting on streets may not be built until the council or tribunal of appeal has sanctioned the plans for them, but such sanction cannot be refused if it is proposed to provide about the dwellings an open space or spaces equivalent to the open space or spaces

FIG. 2.



A common method of laying out a street block for dwelling-houses in suburbs.

which should have been provided under the Act if such dwellings had been erected abutting on a street laid out before 1894 (Section 42 of the 1894 Act). For the purpose of securing through perflation to streets the London Building Acts also empower the County Council to refuse to sanction a new street unless it exceeds 40 feet in width and is open at both ends from the ground upwards. This prevents future culs-de-sac, although many remain in existence.

The Acts provide that on a domestic building erected in London after Jan. 1st, 1895, in an existing street, and having a basement habitable for sleeping or living purposes, there must be provided in the rear for the purpose of light and air an exclusive open space of not less than 100 square feet free from any erection thereon above the level of the adjoining pavement. If the building erected be in a new street, then in the rear there must be provided an exclusive open space of not less than 150 square feet, extending throughout the entire width of the building and to a depth of at least 10 feet from the building. Of this open space 100 square feet must be left open for a habitable basement. If the basement be not constructed to be habitable the open space at the rear may be entirely built over up to the level of the adjoining pavement, and if the ground floor be not constructed to be habitable the open space at the rear may be built over to a point 16 feet above the street level. There is no provision to leave any open space for the purpose of drainage nor is any alternative provision made to cut off aerial communication between an entirely built-in basement and ground floor to 16 feet above the pavement and a domestic building erected over. One or other provision of this kind is desirable for the protection of health. This is more especially so, as under the new Building Acts new buildings are being erected on old sites throughout London, and enlarged so as to cover the whole surface by building over any existing area at the back up to 16 feet above the pavement, any previously existing air-space being blocked out, and the two or more lower floors being built back-to-back. The whole of some street blocks are being so built in, with offices below and dwellings above, and with an enclosed central well, which is permitted provided the width equals half the height and the depth exceeds twice the width of

[19] Tenth International Congress of Hygiene, Paris, 1900.
[20] The Housing Question in London, London County Council, 1885–1900.

the well. This is a more restricted light and air requirement than the continental system of a central courtyard with *porte-cochère*.

The lines adopted for the admission of light and air to houses have passed three graduated stages. The first stage is illustrated by mediæval houses with projecting upper storeys, the second by straight-fronted existing streets, the third by the backs of more recently erected houses with receding upper storeys such as those erected in a street off the Thames Embankment, between Blackfriars and the Temple. Lifting the area up 16 feet above the level of the street does not apply to working-class dwelling-houses, and as the rear of such houses must have a space equal to half the height when two blocks of such houses back upon each other the two intervening spaces would be of a width equal to the height of the buildings, an angle of 45 degrees. But these intervening spaces are usually thrown into one and it is difficult to see what there is to prevent this space being reduced to half its width, with an angle of 63½ degrees only, instead of 45 degrees, buildings being erected twice the height of the one space in the rear used in common. Of course, the careful provision of external light and air demands the equally careful provision of large windows extending up to the ceiling of dwelling-rooms, and wherever it can be afforded the fixing of ventilating grates in habitable rooms is desirable though not essential.

For the purpose of preventing houses being erected too high or sunk too deep Dr. Poore[21] has suggested the provision of exclusive open space at ground level equal to one-fiftieth of the cubic contents of the house. The height of houses can be controlled by the angle of light and air. The suggestion would prevent the construction of basements, but is this the object to be aimed at? Is it not rather the prevention of the habitation of shut-in basements and making provision for them to be cut off from aerial communication with the dwelling-houses above? This is important, because in the larger types of building containing many dwellings the soil- and other drain-pipes become practically equivalent to the sewer draining a street of dwellings constructed on the old plan.

With regard to the surface of the open spaces immediately contiguous to dwelling-houses the soil in towns always becomes polluted and prejudicial to health. There are two ways in which it can be effectually dealt with, the one is by cultivation as a garden, the other is by impervious paving so levelled and drained as to be readily cleansed. As a temporary expedient the surface may be gravelled and rolled, but this is not of permanent benefit. Many small gardens in town are merely barren wastes, and in deciding as to whether a space is a garden or yard the test is whether it is regularly cultivated with grass or permanently paved. It should be definitely provided that such spaces should be regularly cultivated or permanently paved instead of leaving it to vague by-laws that are difficult, if not impossible, to apply.

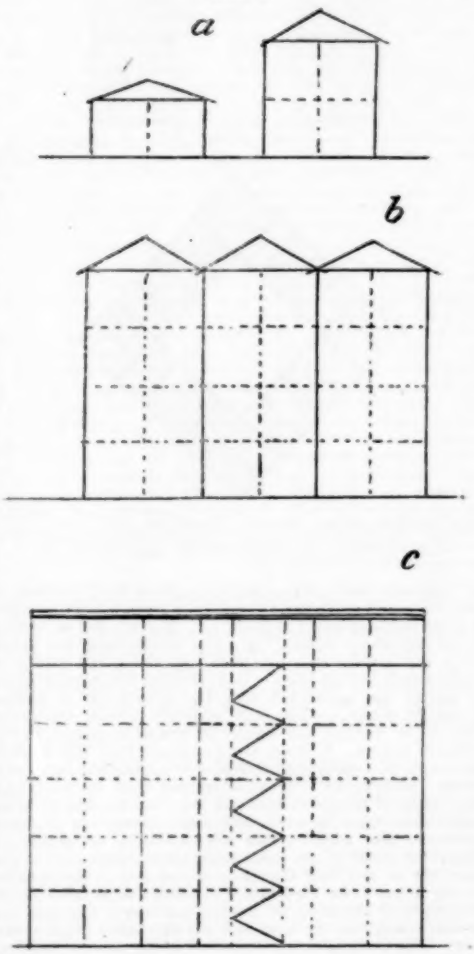
CLASSES OF DOMESTIC BUILDINGS AND DWELLINGS AND THEIR ARRANGEMENT.

Although in considering construction and mis-construction dwellings of the working-classes, especially in new blocks of buildings, have been kept in view, nevertheless the conditions and principles discussed also apply more or less to dwellings of the affluent, especially those that are being erected in increasing numbers in flats of various kinds (see Figures 3 and 4).

There are three main structural divisions of domestic buildings used as family dwelling-places: the horizontal, the vertical, and the vertico-horizontal. The *horizontal* house presents three types according to size: the one-storey cottage, the homestead, and the bungalow, wholly detached from each other. The *vertical* house, in one or more storeys, may be regarded as a cottage, a villa, or a mansion, according to size and according to external relationship to each other. Such houses are detached, semi-detached, and in terrace; the first with four contiguous sides open, the second with three contiguous sides open, and the third with two opposite sides open. These types of houses, when constructed back-to-back, produce respectively the semi-detached, the four-group, and the true back-to-back house, the first having three contiguous sides free, the second two adjacent sides, and the third only one side open. So that in the four-group type of house with two adjacent open sides, instead of the ventilation, or rather perflation, being "through" or squarely across the building it is "diagonal" or obliquely across, and in the true back-to-back type of house with only one open face there is neither "diagonal," "through," or "cross" ventilation or perflation of any kind. This characteristic of having only one open face is not confined to houses built back-to-back, but is common to all houses built in terraces with the rear-front closed in on account of abutting on other property over which there is no right of light and air, and hence houses have come to be distinguished as "through houses" and as not through-ventilated (or rather perflated) houses.

The *vertico-horizontal* house essentially consists of horizontal dwellings superimposed upon one another and approached by a common staircase and entry. This compound type of house may also be constructed, with regard to others, detached, semi-detached, or in terrace. Such houses

FIG. 3.



Types of dwelling-house. *a*, a past type; *b*, existing type; *c*, future type.

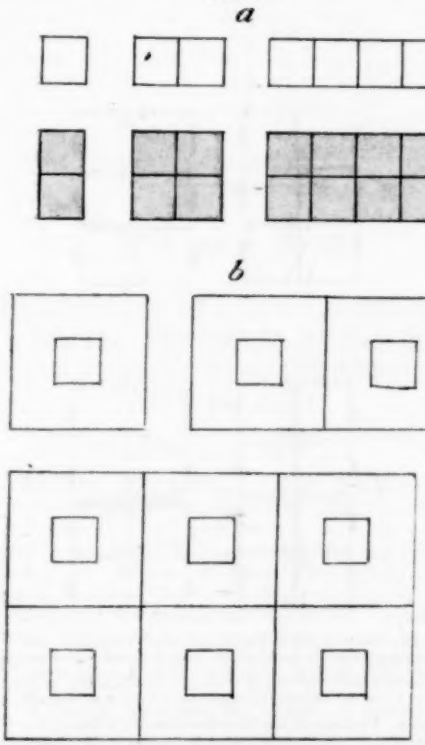
may also be constructed in four-group, or back-to-back, by means of internal staircases and corridors running through the centre, as seen in some of the earlier tenement houses erected in New York.[22] It is obvious that in the compound vertico-horizontal type of house the four-group and back-to-back prevents perflation even more than in the simpler and smaller types of domestic buildings. Although such glaring back-to-back style of building in the vertico-horizontal house becomes almost self-prohibitive this type of house

[21] The Dwelling-house.

[22] R. R. L. Gould, Ph.D.: See Plans No. 5 to No. 12 in the Eighth Special Report of the Commissioner of Labor, Washington, 1899.

enables much more complicated methods of construction to be adopted with the view of economising space while ignoring health requirements. If the constituent dwellings in such houses are prolonged sufficiently far laterally they may be made to extend round two, three, or four sides of a hollow square or rectangular court, and when these hollow squares are placed side by side and back to back there is reproduced on a much larger scale, not four-group and back-to-back houses but four-group and back-to-back blocks of houses. The same effect is produced when one or more of the sides of the internal court are occupied by the blank walls of adjoining buildings. This style of building is met with in continental towns, especially the larger French cities, and is figured in one well-known work[23] amongst

FIG. 4.



a. Showing how detached, semi-detached, and terrace houses become semi-detached, four group, and true back-to-back houses. b. Showing how the same thing may take place in a compound building round a central court.

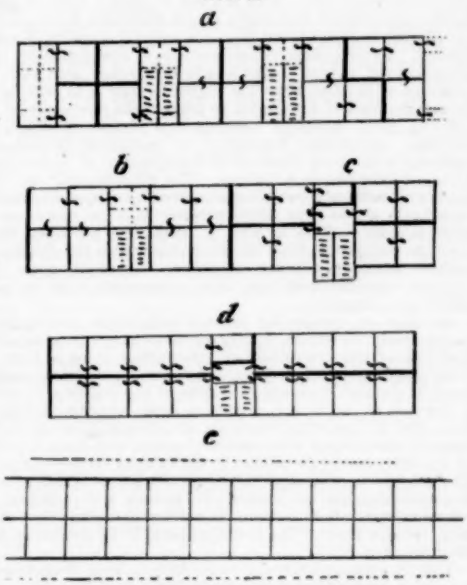
types of Parisian working-class dwellings, and next to it is figured a four-group block. There is no *porte-cochère* or gateway to the internal court, which somewhat mitigates the condition of some of the courtyards of Parisian blocks of dwellings or flats of this type, although it procures little or no perflation to the dwelling-rooms overlooking the courtyards.

Internal enclosed courts are now required by the Building Act in London to be provided with communication into the outer air at the lower end when they have the windows of *habitable* rooms opening into them and the height of the court is greater than the length or breadth; and a court open on one side, the depth of which exceeds twice the width, cannot have the window of a habitable room opening into it lower than half the height of the building. The pectinated form of building is modified to more reasonable dimensions by this last provision, but constructive ingenuity cuts it very fine.

These compound domestic buildings lend themselves to another complication (see Fig. 5). The dwellings may themselves be so arranged as to form semi-detached four-group and back-to-back dwellings. The type of the semi-detached dwellings are dwellings of two rooms, one room on each front, and one dwelling on each side of an open staircase on each floor, although a healthful is not an economical method of building and is seldom adopted. The type of the four-group dwellings may be found in London constructed in the simplest form by placing four single or four two-room dwellings side by side and back to back, the dwellings being approached by an open staircase with four dwellings on each floor, and although the open staircase is beneficial the grouping is not, especially in the case of the inner room in the two-room dwellings. The type of the back-to-back dwelling is found wherever there is a central wall or partition separating the front rooms from the back rooms. This separation ought to be absolutely prohibited by law. If, for instance, in the last-mentioned example the rooms of the front two-room dwelling were made to open into the rooms of the back two-room dwelling, there would be a four-room dwelling with through perflation of the rooms and the staircase. But not only is the perflation of the rooms stopped by cutting off the front rooms from the back rooms, but also the perflation of the staircase by the addition of another room so as to close in one end of the staircase between the dwellings upon each landing. The cutting off of the front rooms from the back rooms may be extended to three, four, or more consecutive rooms, and so a pile of back-to-back dwellings may be erected. In the worst example of this form of construction that I know of, which was only erected a few years ago, there are four four-room dwellings on each floor, an odd room being added to one of the front dwellings; the rooms in each of these dwellings lead one into the other and are all situated on the same front of the building, so that there is absolutely no perflation. When it is added that the building faces north and south, it will be readily understood that the dwellings on the north face not only have no perflation but never see the sun. Outside balconies on the front and rear face of these compound buildings enable the back-to-back method of construction to be adopted to an unlimited extent.

Internal common staircases in compound dwelling-houses, by want of ventilation, are prejudicial to health, as they render the contained air common to all the dwellings opening

FIG. 5.



a. Single-, two-, and three-roomed dwellings in four groups. b. Block of four-room dwellings with open staircase and lobby. c. Block of back-to-back dwellings of two and three rooms. d. Showing a block of back-to-back dwellings approached by a single stair. e. Showing that outside balconies give unlimited scope for back-to-back construction.

[23] Planche, No. 20; Habitations Ouvrières en Tous Pays; Muller and Cacheux, Paris, 1868.

upon them. It is essential that a common stairway should be external or against an outer wall and be amply ventilated at each floor level by permanent openings. The insertion of windows may secure light but does not necessarily secure air. The common stairs in artisans' dwellings are usually constructed from three and a half to four feet wide.

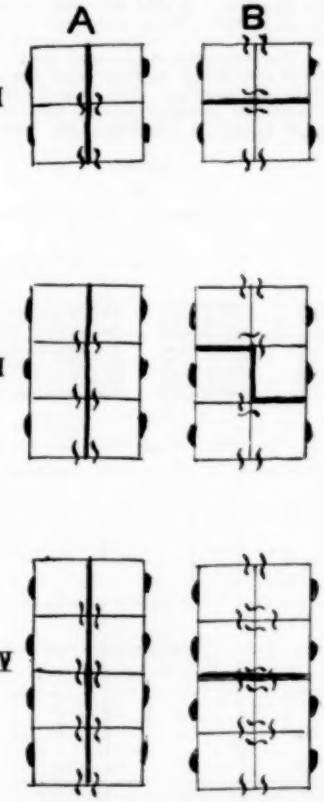
It must be borne in mind that a "flat" in all cases in which the rooms are entered directly from the common stair or in which the vestibule, lobby, or corridor is not ventilated directly from the outer air is essentially one large space divided into smaller spaces, compartments, or rooms and the air-supply is common to all, as there is no ventilated staircase open to each room as in an ordinary house. If there be a corridor in the dwelling it may be found of an I L, T, or H shape, according to the number of rooms, and the placing of hinged fan-lights over the doors of the several rooms or compartments does not procure the ventilation of the corridor into the open air. The fixing of a hinged fanlight, or of a permanent open louvre, over the outer door upon the common stair, when the common stair is closed by windows and doors, merely places the air of each dwelling, by means of the common stair, in communication with the air of all the other dwellings in the building. The windows and doors on common stairs are rarely left open except in the height of summer. This inter-communication of air-supply is a condition that also prevails in ordinary tenement houses sublet in separate dwellings, with one or more families on every floor, and upon which the comment of sanitarians has not been sparing.

In new buildings the Local Government Board wisely insist upon lobbies between water-closets and dwellings being ventilated by permanent openings into the outer air and upon common staircases being similarly ventilated, but the London County Council state[24] that they have provided windows—and, it may be added, doors—to the lobbies and staircases in such buildings because of the unsightly way tenants attempt to block the openings. Section 60 of the London Building Act, 1894, provides that in every building constructed or adapted to be occupied in separate tenements by more than two families the principal staircase used by the several families in common shall be ventilated upon every storey above the ground storey by means of windows or skylights opening directly into the external air, or shall be otherwise adequately ventilated. This is a *non sequitur*. Such a provision overlooks the fact that a glazed window is a means for the admission of light, but is not necessarily a means of ventilation. My experience is that windows of common stairs are never opened except in the height of summer, and such a provision is illogical when the object in view is to provide a permanent form of ventilation to prevent the air-supply of a building from becoming common to a number of different families. Continuous ventilation by means of permanent openings is the only method of construction of permanent value, and the reason is obvious. The windows will only be opened when those affected are all agreed upon it, and common experience shows how little possible it is to agree upon such a point. This is also a reason for providing that through ventilation shall be obtainable within the dwelling, without necessarily being altogether dependent upon the common staircase, even when it is permanently open on one side to the outer air.

In order to provide for through ventilation, and against back-to-back dwellings, I have on various occasions insisted that one of the conditions of construction must be that in every dwelling of more than one room the alternate rooms must be situated upon opposite sides of the building in such a manner as to secure perflation from opposite fronts.[25] Examples of the non-observance of this condition are to be found in numbers of buildings in London, and even in some of the later buildings erected by the London County Council. The answer to this that might be advanced—namely, that the open staircase is intended to provide the perflation, is cut away by the fact that the Council have admitted that they now enclose them. The above proposal is illustrated in the diagram (Fig. 6).

The A column shows a two-, three-, and four-roomed dwelling constructed respectively with only one entrance and back-to-back. The B column shows the application of the requirement that every dwelling of two or three rooms should have one of the rooms situated on the opposite front of the building on which the other room or rooms are situated and every dwelling of four rooms two of such rooms.

FIG. 6.



The sign resembling S indicates doorways. To explain this diagram it must be premised that in a building two rooms deep with dwellings let in single rooms it would be impossible to have the window of a single room opening on to both fronts of the building and so the principle of through ventilation for single or odd rooms cannot be made to apply. The diagram therefore shows two (II.), three (III.), and four (IV.) room dwellings (horizontally) in two stages, A and B (vertically).

With reference to the size of rooms in new buildings the London County Council have adopted a minimum of 96 square feet for bedrooms and 144 square feet for living rooms, and the latter may be taken as a maximum, with a height, now, of eight and a half feet, formerly nine feet. It is a mistake to make large rooms for the poorer classes as it leads to overcrowding, the placing of more beds into the rooms, and the mixing of the sexes. If the same sized family that can live in one very large room live in two smaller rooms they are housed under better conditions of aeration, decency, and physical well-being. It is important, also, to remember that in raising the age at which children remain at school, and at which they can commence to work in factories, tends to keep them at home with their parents, without earning anything towards enlarging the dwelling by another room.

The minimum number of rooms in dwellings for the poorer classes is a subject[26] upon which I entered fully at the Birmingham Health Congress and pointed out that the differences of sex and age are the factors that render family life impossible in a single room and that in Glasgow Dr. J. B. Russell had shown that between 1871

[24] The Housing Question in London, London County Council, 1900, p. 50.

[25] Separate Dwellings, Public Health, 1900.

[26] Dwelling Accommodation in Large Cities, Journal of the Sanitary Institute, 1889, vol. xx.

and 1891 the persons living in one room fell from 30·4 per cent. to 18·0 per cent. of the total population, whereas those living in two and three-room dwellings rose exactly in the same proportion as those in the one-room had fallen—namely, from 54·7 per cent. to 67·2 per cent. of the total population.

TABLE V.—*Showing Proportion of Persons to Rooms in Glasgow from 1871 to 1891.*

Dwellings of	Census, 1871.	Difference, 1871 to 1881.	Census, 1881.	Difference, 1881 to 1891.	Census, 1891.	Difference, 1871 to 1891.
One room	30·4	- 5·7	24·7	- 6·7	18·0	- 12·4
Two rooms	41·5	+ 3·2	44·7	+ 2·8	47·5	+ 6·0
Three rooms	13·2	+ 2·8	16·0	+ 3·7	19·7	+ 6·5
Four rooms	5·8	+ 0·3	6·1	+ 1·1	7·2	+ 1·4
Five rooms and upwards	9·1	- 0·6	8·5	- 0·9	7·6	- 1·5
—	100·0	—	100·0	—	100·0	—

A Clinical Lecture

ON

THE STATISTICS OF GASTRIC ULCER, WITH SPECIAL REFERENCE TO GASTRIC HÆMORRHAGE, ITS FREQUENCY AND FATALITY.

Delivered at the Edinburgh Royal Infirmary on Feb. 12th, 1901,[1]

BY BYROM BRAMWELL, M.D., F.R.C.P. EDIN.,
PHYSICIAN TO THE EDINBURGH ROYAL INFIRMARY, &c.

GENTLEMEN,—On Wednesday last Mr. Mayo Robson delivered an "Address on Gastric Hæmorrhage and its Surgical Treatment" before the Medico-Chirurgical Society of Edinburgh. In that address he advanced certain conclusions with regard to the total mortality caused by gastric ulcer and the frequency of death from hæmorrhage in cases of gastric ulcer which are not in accordance with my own experience—and my experience of gastric ulcer is considerable—and which demand, I think, very serious consideration before they are accepted by the profession. The question is one of great practical importance, for if the mortality from hæmorrhage in gastric ulcer is as great as Mr. Mayo Robson supposes it to be, and if his deliberately expressed opinion that operative procedure should be adopted "after a second bleeding, even during the course of the hæmorrhage if the patient can stand it, or as soon after as his condition will permit the operation to be done," is accepted and acted upon, operations for the arrest of hæmorrhage in cases of gastric ulcer will become of everyday occurrence, with, I fear, unless the mortality from such operative procedure should in the future become very much less than it is at present, an increase rather than a decrease of the mortality. I express this opinion, however, with diffidence, for I fully recognise the fact that "gastric surgery is advancing in safety and efficiency with leaps and bounds," and I feel grave hesitation in expressing an opinion on a question which is to some extent a surgical one in opposition to Mr. Mayo Robson who is justly regarded as one of the greatest living authorities on surgical questions of this kind.

Mr. Mayo Robson's conclusions as to the frequency of gastric ulcer, the fatality of gastric ulcer, and the frequency and fatality of hæmorrhage in cases of gastric ulcer are based on a series of statistics which have from time to time been published by leading authorities on the diseases of the stomach. The figures (percentage mortalities) given by these authorities vary very greatly. In arriving at his results Mr. Mayo Robson has taken the mean of the figures—in my opinion an unreliable method of calculation, or rather he seems to have taken the mean of the extremes, which in this case is a most unreliable method, for some of the figures (the maximum figures) which he quotes were published more than 40 years ago and certainly do not correctly represent the mortality of the disease or the frequency with which death from hæmorrhage in gastric ulcer occurs either in hospital or in private practice at the present time. No one, for example, who has an extensive clinical experience of gastric ulcer will, I fancy, agree with the following conclusions of Brinton—viz.: that the liability to ulcer of the stomach increases with the age of the patient and reaches its maximum at the extreme age of 90 years; that gastric ulcer only undergoes a spontaneous cure in 50 per cent. of the cases; and that the mortality (direct and indirect) in all cases of gastric ulcer from all causes is consequently 50 per cent.[2]; or with Müller's statistics, published in the year 1860, which show that 11 per cent. of all cases of ulcer of the stomach die from hæmorrhage.[3]

It is unnecessary to tell you, gentlemen, that statistics, unless the data on which they are compiled are absolutely reliable, are apt to lead to very erroneous conclusions; and I venture to think that there is perhaps no subject in the whole range of medicine on which the statistics are more uncertain than the subject of gastric ulcer. This is due to the circumstance that the data on which many of the statistics relating to gastric ulcer are largely based are not facts but merely deductions and conclusions from facts, and that the facts themselves on which these deductions and conclusions are founded are in some cases matters of inference rather than of certainty. Further, some of the mortality percentages were published many years ago. The statistics of gastric ulcer require, I think, careful re-investigation and re-consideration.[4] In this lecture I propose to direct your attention to some of the fallacies connected with these statistics and to try to show that Mr. Mayo Robson has considerably over-estimated the total mortality from gastric ulcer and the mortality from hæmorrhage in gastric ulcer. And here I would ask you to note that I limit my remarks to simple (round or perforating) ulcer of the stomach. I do not refer to simple (round or perforating) ulcer of the duodenum; for although the differential diagnosis is sometimes, I believe, impossible and in many cases attended with difficulty, the two conditions seem to me to present certain differences from a clinical point of view, which, when one is considering the total fatality, the risk of fatal hæmorrhage, and the advisability or non-advisability of operative interference, make their separate consideration, probably, advisable; but I reserve my final opinion on this point.

THE FREQUENCY OF GASTRIC ULCER IN THE GENERAL POPULATION.

We have no certain knowledge as to the frequency with which gastric ulcer occurs in the general population. The usual estimate which is accepted by all authorities is that 5 per cent. of the whole population suffer at some period of their lives from simple (round or perforating) ulcer of the stomach. Consequently, on this estimate, in a city of the size of Leeds, with, say, 500 000 inhabitants, 25,000 persons may be supposed to have, or to have had, gastric ulcer. This estimate of 5 per cent. for the whole population may be

[1] Some figures and calculations have been added by Dr. Bramwell.

[2] So far as I know, Brinton does not anywhere state that the direct mortality from gastric ulcer is 50 per cent. What he does state in different parts of his treatises on Ulcer of the Stomach and Diseases of the Stomach is that "in 50 per cent. of the cases the ulcer undergoes a spontaneous cure" (p. 140), that "in 13 per cent. of the cases of gastric ulcer death is due to perforation" (p. 144), that "in 3—5 per cent. of the cases of gastric ulcer death is due to hæmorrhage" (p. 153), that "in 3, 4, or 5 per cent., even in middle-aged persons, exhaustion is evidently the chief (if not the sole) cause of death" (p. 154), and that "in about 30 per cent. of all cases of gastric ulcer it is probable the lesion gives rise to a process of marasmus or partial exhaustion which anticipates, hastens, or increases that failure of the nutritive functions which is one of the most essential elements of death in old age" (p. 155).

[3] Das Corrosive Geschwür im Magen und Darmkanal, 1860, p. 91.

[4] I propose to invite the registrars and pathologists of the large hospitals throughout the country to join me in a collective investigation of the whole subject.

correct; I neither affirm nor deny its correctness, although I am disposed to think, for reasons which I will presently give you, that it is probably an exaggerated estimate; but what I do say is that the statistics and deductions on which it is based are open to so many uncertainties and sources of fallacy that it can only be accepted as a rough estimate, about which there must necessarily be considerable difference of opinion and uncertainty.

The frequency of gastric ulcer in the population generally has been (approximately) arrived at in two ways—viz.: 1. By observing the frequency with which open gastric ulcers and the cicatrices of former gastric ulcers are met with in the bodies of persons examined post mortem—if, for example, in 10,000 bodies examined post mortem open ulcers are found in 150 cases and cicatrices in 350 other cases, it is concluded that 500 of the 10,000 persons examined post mortem, or 5 per cent., have at some period or other of their lives suffered from gastric ulcer. 2. The frequency with which gastric ulcers are diagnosed in a given number of patients suffering from various diseases examined during life.

A. *The post-mortem method.*—The post-mortem method is the more reliable of the two and it is the one on which the usually accepted estimate of 5 per cent. for the whole population is based. In 32,052 necropsies made in Prague, Berlin, Dresden, Erlangen, and Kiel (collated and analysed by H. W. Welch[5]), there were found 1522 cases of open ulcer or of cicatrix (presumably the result of former gastric ulcer) in the stomach. Therefore, ulcer of the stomach had occurred in 4·7 per cent. (say, roughly, 5 per cent.) of these 32,052 patients.

Objections to the post-mortem method.—In my opinion, the post-mortem method of calculation is open to the following fallacies and objections.

1. All open ulcers are not found. It is obvious that unless the stomach is carefully examined in all cases there is a serious source of error here—e.g., the number of ulcers will be under-estimated. I do not know whether in the cases analysed by Welch the stomach was systematically examined in all cases, but from the thorough way in which post-mortem examinations have for many years been conducted in Germany we may take it, I think, that this was so, at all events in the more recently examined cases.[6] Consequently this source of error may probably be disregarded, though it is certain, I think, even granting that the stomach was examined in all cases, that in the 32,052 cases collated and analysed by Welch the total number of open ulcers was under-estimated rather than over-estimated.

2. The cicatrices of former ulceration are often missed. This is probably a serious source of error, for unless the stomach is very carefully examined cicatrices, more especially the cicatrices of small and superficial ulcers, are very apt to escape observation. That this is so is clearly shown by the observations of Grünfeld.[7] He examined 1150 bodies of persons over 50 years of age in Copenhagen (where gastric ulcer appears to be unusually common). In these 1150 cases cicatrices of gastric ulcers were present in 124 cases, or 11 per cent. In 700 post-mortem examinations in which the cicatrices were not very particularly looked for they were found in 32 cases, or 4·8 per cent; while in 450 cases in which they were particularly looked for cicatrices were found in 92 cases, or 20 per cent. The relative proportion of cicatrices to open ulcers found by different observers varies very considerably.[8] In calculating the percentage with which gastric ulcer occurs in patients examined post mortem the usual estimate is to give the ratio of cicatrices to open ulcers as three to one; but because of the fact that small and superficial cicatrices are apt to be missed unless very carefully and specially looked for there is much uncertainty as to the correctness of this ratio.

3. It is, I think, open to doubt whether a superficial ulcer in the stomach, when it heals, necessarily leads to the production of a cicatrix, or at all events of a cicatrix which is easily detected after death. This is, I think, a practical point of great importance, for if it is allowed that ulcers of the stomach sometimes heal without leaving obvious or easily recognisable cicatrices it is clear that in this fact there may be a very serious source of error.

In Edinburgh ulcer of the stomach is a very common disease clinically; the majority of patients suffering from gastric ulcer admitted to the Royal Infirmary are anæmic young women; hæmatemesis occurs in a very large percentage of cases; but I think I am correct in saying that the cicatrices of ulcers are, relatively to the great clinical frequency of the disease, comparatively rarely found in the bodies of patients examined post mortem. (I have not yet had time to go over the post-mortem records and get the exact figures.) Even allowing for the fact that the attention of our pathologists may not have been particularly directed to the detection of cicatrices in the stomach, I am disposed to think, from my own observations, both clinical and pathological, that ulcer of the stomach (judging from the number of well-marked and undoubted cases which one sees in the wards of the hospital during life) is very much more frequent in the patients admitted to our infirmary than the records of our post-mortem examinations would seem to show. I doubt whether the difference can be altogether or satisfactorily explained by the fact that the scars are often missed on post-mortem examination. It seems to me extremely reasonable to suppose that a superficial ulceration of the stomach, attended with all the characteristic symptoms of gastric ulcer during life, may heal, if carefully treated for a sufficient length of time in its earlier stages, without leaving behind it any obvious or any easily recognised result in the form of a cicatrix. It is not improbable, I think, that ulceration of the stomach as we see it in young anæmic (chlorotic) women not infrequently pursues this course. This supposition seems to receive some confirmation from the following facts: (1) that a large majority of the patients who are admitted to hospital (I refer to hospitals generally and not merely to the Edinburgh Royal Infirmary) suffering from gastric ulcer are women; and (2) that in the female patients admitted to hospitals suffering from gastric ulcer the percentage mortality is considerably less than in the male patients. In other words, in hospital in-patients gastric ulcer is a more fatal disease in the male than in the female.

I am disposed to think that gastric ulcer in the young (chlorotic) female is, on the whole, a less serious and fatal disease than in men—though I, of course, admit that in a considerable percentage of cases gastric ulcer in anæmic young women leads to the production of perforation and is the cause of very profuse hæmorrhage; in other words, that in many instances in anæmic young women the ulcers are deep and not superficial. I suggest that the explanation is probably afforded by the fact that in young chlorotic females the ulceration is not infrequently superficial. I am further disposed to think that, in some cases at all events, the anæmia plays a part in the production of the ulceration, that the persistence of the anæmia interferes with the healing of the ulcer, and that the disappearance (cure) of the anæmia tends materially to promote the healing of the ulcer.

4. Another objection which has been advanced against the post-mortem method by Welch[9] is "that it is not proven that all of the cicatrices found in the stomach are the scars of healed simple ulcers and that, in fact, it is probable that many are not." I do not myself attach any great importance to this objection; the scars in the stomach which result from other causes than simple (round or perforating) ulcer—such, for example, as syphilitic gummata, erosions and ulcerations the result of irritant poisoning, tuberculous ulceration—are probably not sufficiently numerous to be a practical source of error or seriously to invalidate the figures.

I am disposed to think, then, for the reasons advanced

[5] Pepper's System of Medicine, vol. ii., p. 482.

[6] The Prague statistics, which include 11,868 of the 32,052 cases collated and analysed by Welch, are very old (1844, 1853, 1854); they are, however, the data on which most British authorities have based, or very largely based, their conclusions with regard to the frequency of stomach ulcer. The post-mortem statistics from hospitals in this country are, for the most part, useless for determining the frequency of gastric ulcer, for until comparatively recently, at all events, in many hospitals it was not the custom to make a careful examination of the stomach in all cases examined post mortem.

[7] Schmidt's Jahrbuch, 1883, Band 198, p. 141.

[8] Brinton (On Ulcer of the Stomach, p. 20) placed it at one to one. "In 11,888 cases (collated and analysed by Welch, see Pepper's System of Medicine, vol. ii., p. 482) examined in Prague by Jaksch, Dittrich, Willigk, and Eppinger, there were 164, or 1·4 per cent., open ulcers, and 373, or 3·1 per cent., cicatrices." In 1658 necropsies Greiss (quoted by Quincke, Deutsche Medicinische Wochenschrift, Feb. 4th, 1882, p. 80) found ulcers or scars in 138 cases, 31 open ulcers, and 103 cicatrices (3 four cases both). In 3085 necropsies Steiner (Virchow and Hirsch's Jahresbericht. 1868, p. 125) found ulcers or scars in 110 cases, open ulcers in 56 cases, and cicatrices in 64 cases (and in 10 cases both open ulcers and scars). In 1230 necropsies Wollmann (Virchow and Hirsch's Jahresbericht, 1868, p. 116) found 48 ulcers or scars, 16 open ulcers, 18 scars, 12 both ulcers and scars (two cases not explained).

[9] Pepper's System of Medicine, vol. ii., p. 482.

above (more especially under headings 2 and 3), that in the 32,052 persons examined post mortem in Prague, Berlin, Dresden, Erlangen, and Kiel (collated and analysed by Welch) a larger number than 5 per cent. had in all probability suffered at some period or other of their lives from gastric ulcer. But it does not necessarily follow from this statement that in my opinion a larger number than 5 per cent. of hospital patients examined post mortem in this country at the present time suffered from ulcer of the stomach.

THE FREQUENCY OF GASTRIC ULCER IN THE GENERAL COMMUNITY.

So much, then, for the post-mortem method as applied to hospital patients. Let us now see how this method has been applied to the general population. All authorities, in this country at all events, have, so far as I know without exception, concluded that because a certain percentage of persons who were examined post mortem in hospitals (usually estimated at 5 per cent.) have, at some period or other of their lives, suffered from gastric ulcer, therefore, that the same percentage (5 per cent.) of the general population will, at some period or other of their lives, suffer from gastric ulcer.

It is important to remember that the patients who are examined post mortem in hospitals are for the most part adults (or at all events over five years of age), that the post-mortem examinations on which the statistics on which the 5 per cent. estimate is based were made in German hospitals, and that a considerable proportion of these post-mortem examinations were made more than 40 years ago. Consequently, the deduction which has been drawn by, so far as I know, all authorities in this country, at all events up to the present time, is—that because 5 per cent. of persons who were examined post mortem in German hospitals, the great majority of whom were (presumably) adults, and a considerable proportion of whom lived more than 40 years ago, suffered from ulcer of the stomach, therefore 5 per cent. of the whole population of this country at the present time are suffering from, have suffered from, or will suffer from, gastric ulcer.

Such a conclusion is, I venture to think, altogether unwarranted. In the first place, it is by no means certain that the prevalence of gastric ulcer in this country at the present time is the same as the prevalence of gastric ulcer was in Germany when a considerable part of the statistics collected by Welch were compiled, or even at the present day. It seems certain that gastric ulcer is more prevalent in some countries than in others, and in some parts of the same country than in other parts. Gastric ulcer seems, for example, to be (or was when Grünfeld's observations were made) extremely prevalent in Copenhagen. It seems to be less prevalent in America than in this country. It is said to be very rare in some parts of Russia. It is certainly very common in young chlorotic women in Edinburgh. The disease (and especially the gastric ulcer of chlorotic young women) is probably more common in urban than in rural districts. Further, it is not unnatural to suppose (although so far as I know there are no recorded observations or statistics to prove this) that, owing to differences in dietary, occupation, and mode of life generally, the frequency of gastric ulcer at the present time is different to what it was 40 or 50 years ago. But this objection to the application of the hospital results to the population generally is one to which I attach comparatively little importance. I pass to other objections which are, in my opinion, of much greater weight.

The second objection is that in the class of patients who are examined post mortem in hospitals gastric ulcer is very much more prevalent than in the middle and upper ranks of society, and probably more prevalent than in the same class of persons living in the rural districts (the hospital patients are, of course, for the most part drawn from the towns). Consequently, to conclude because 5 per cent. of the persons who are examined post mortem in hospitals have suffered from ulcer of the stomach that 5 per cent. of the whole population will suffer from ulcer of the stomach seems to me altogether unjustifiable.

The third objection is that (though I speak subject to correction on this point) the post-mortem statistics on which the usual estimate of 5 per cent. is based included very few children under five years of age. Now ulcer of the stomach (I refer to the round perforating ulcer) is, practically speaking, unknown in children under five years of age; but children under five years of age form a very considerable proportion (approximately 13 per cent.) of the whole population. Therefore, to conclude because 5 per cent. of the persons examined post mortem in hospital, the great majority of whom were (so far as I know) over five years of age, had suffered from gastric ulcer, that 5 per cent. of the whole population (a considerable proportion of whom—approximately 13 per cent.—are children under five years of age) suffer from gastric ulcer is certainly erroneous.

In the fourth place, it cannot, I think, be doubted that the percentage of patients who die from gastric ulcer is much larger in hospitals than outside hospitals. In Leeds, for example, last year 16 deaths were registered as due to gastric ulcer, one as the result of duodenal ulcer, and six from hæmatemesis, some of which (say four) were perhaps the result of gastric ulcer. Of these 20 deaths, presumably due to gastric ulcer, eight occurred in the General Hospital and one in the Fever Hospital. But of the eight patients who died in the General Hospital three came from districts outside Leeds. Now, even allowing for greater accuracy of certification in the hospital deaths, the proportion of deaths from gastric ulcer in hospital as compared with private practice is enormous if one considers the relative number of cases of gastric ulcer which were treated during the year in Leeds, in the hospitals and outside the hospitals respectively. Further, a large proportion of the patients who die from gastric ulcer in hospitals are examined post mortem. Consequently the percentage of hospital patients who are estimated to have suffered from gastric ulcer will (because of the manner in which this percentage is determined—viz., by multiplying the number of open ulcers which are found in the bodies of hospital patients examined post mortem by the number 3, which is supposed to represent the number of cicatrices which occur to every open ulcer) be unduly large, and will be very much larger than the percentage of the general public outside hospitals who are suffering from, have suffered from, or will suffer from, gastric ulcer.

I repeat that we have no certain means of saying what proportion of the *whole* population suffer from gastric ulcer. The 5 per cent. estimate, which is accepted by all authorities, may or may not be correct; but the data on which this estimate is based are very uncertain. Consequently the estimate of 5 per cent. for the whole population can only, at the best, be taken as approximately accurate and is, in my opinion, probably excessive.

B. *The clinical method.*—This method is even less satisfactory than the post-mortem method. The number of cases of gastric ulcer in a given number of clinical cases is subject to great variations in accordance with the facts—whether the patients are hospital or private patients; whether they are in-patients or out-patients; with the locality—whether gastric ulcer is common or rare in the district; with the nature of the hospital—whether the patients are chiefly medical or chiefly surgical; whether the hospital is large or small in proportion to the population from which it receives its patients; whether the patients are chiefly males or chiefly females; whether they are chiefly adults or children, &c. And in the practice of individual physicians the number of cases of gastric ulcer which are diagnosed in a given number of clinical cases will vary and depend on many of the same factors as in hospital practice (the age, sex, occupation, station in life of the patients, locality, &c.), and whether the physician who makes the observations is engaged in general or in consulting practice, whether he has a special reputation for the treatment of stomach diseases, &c. Further, the nature of the symptoms which are considered necessary to warrant a definite diagnosis of a gastric ulcer varies in the case of different observers. A physician who considers that it is, speaking generally, hazardous definitely to diagnose a gastric ulcer in the absence of hæmatemesis will meet with far fewer cases of gastric ulcer than another physician who is in the habit of frequently diagnosing gastric ulcer in the absence of hæmatemesis. Further, after a given number of cases of gastric ulcer have been diagnosed in a given number of patients, there are, so far as I know, no reliable figures for enabling us to determine the exact frequency with which gastric ulcer will occur in the population generally. As a matter of fact, different statistics regarding the frequency of gastric ulcer, in proportion to other diseases met with in clinical practice, present great variations even in the practice of the same physician—in other words, in cases in which the diagnostic difficulty (the question as to what symptoms justify a diagnosis of gastric ulcer) may be disregarded. Thus in my own case the proportion of gastric ulcers to other cases of disease differs

very materially amongst in-patients in Edinburgh and in Newcastle (this is chiefly due to the facts that in Edinburgh I had for several years no male beds and that in Newcastle the number of beds to the population which the hospital supplied was, at the time when I was associated with the Newcastle Infirmary, very much more limited than it is in Edinburgh; consequently in Newcastle we were rarely able to admit any but the most severe cases); between in-patients and out-patients in the Edinburgh Royal Infirmary; and between out-patients in the Edinburgh Royal Infirmary and patients seen in private (consultation) practice. The figures are as follows. In 17,226 cases of general medical diseases of which I have kept notes, seen either in hospital or in private practice, there were 202 cases of gastric ulcer = 1·1 per cent., or, if the Edinburgh in-patients are omitted, in 14,681 patients there were 108 cases of gastric ulcer = 0·73 per cent. Thus, in 2545 in-patients in the Edinburgh Royal Infirmary there were 94 cases, or 3·69 per cent. In 893 in-patients in the Newcastle-on-Tyne Infirmary there were five cases, or 0·55 per cent. In 7665 out-patients seen at the Edinburgh Royal Infirmary there were 76 cases, or 0·99 per cent. In 6123 cases seen in private (consulting) practice there were 27 cases, or 0·44 per cent.[10]

THE TOTAL FATALITY FROM GASTRIC ULCER.

It is extremely difficult to draw exact and reliable conclusions as to the total mortality which is directly due to gastric ulcer and its different complications and as to the frequency with which death from hæmorrhage occurs in cases of gastric ulcer. If hospital cases are taken as the basis of the calculation the objection at once occurs that many of the worst cases which occur in a community are sent into hospital, more especially when perforation has occurred or alarming hæmorrhage has developed. Consequently it is erroneous to estimate the mortality in all cases of gastric ulcer from the mortality which occurs amongst the in-patients of a hospital. On the other hand, it must be remembered that, provided that death does not occur within the first few days after admission, death very rarely occurs amongst medical in-patients. My experience in the Edinburgh Royal Infirmary shows that the worst cases of gastric ulcer, with very few exceptions, rapidly improve under appropriate treatment in hospital. Again, it must be remembered that one cannot take the exact percentage of cases which are discharged from hospital as cured as actually cured in all cases. Many of the cases which are discharged as cured are no doubt only greatly improved. Some of the cases discharged as cured relapse soon after their discharge; in these cases the ulcer was no doubt imperfectly cicatrised. Others relapse after a varying period of months or years. In those cases in which there were no gastric symptoms for a considerable period of time after the patient's discharge from hospital it is reasonable, I think, to conclude that the ulcer was cured at the time of the patient's discharge, and that after a time it broke out again or a new ulcer developed; and in estimating the total percentage mortality of gastric ulcer cases of this kind should probably, I think, be regarded as new cases—new ulcers.

The results obtained from the treatment of in-patients in hospital must in many cases be regarded as merely applicable to the treatment of cases of gastric ulcer during a certain, and it may be a very limited, period of their course. In those cases in which the patient is discharged before the ulcer is completely and firmly cicatrised death may, of course, occur during some subsequent period of their course. Hence to argue that because in 100 cases of gastric ulcer treated in hospital 90 were cured, seven were discharged *in statu quo*, and three died, the total mortality from gastric ulcer, in hospital in-patients, is only 3 per cent., is, of course, erroneous. But since the great majority of severe and aggravated cases of gastric ulcer which are admitted to the medical wards of a hospital (provided that the patients do not die within the first few days after their admission) rapidly improve and are in the course of a short time discharged as "cured," it is reasonable, I think, to conclude that, if the treatment had been carried out for a sufficient length of time, many of the cases which are imperfectly cured at the time of their discharge would also have been completely cured.

The mortality percentages for gastric ulcer given by different authorities are for the most part based on hospital statistics. The percentages of different authorities differ very materially. The older percentages, such, for example, as those of Brinton, based on results obtained more than 40 years ago, cannot, and should not, be taken as representative of the results of treatment and as indicating the mortality at the present time.[11] Mr. Mayo Robson, after stating that, "according to Brinton, Habershon, Müller, Dreschfeld, Lebert, and others, the mortality from all causes in all cases of ulcer is from 10 to 50 per cent.," takes the mean estimate of mortality as 25 per cent. (or, rather, he seems to have taken the mean of the extremes), though he states "that this is under the mean given by the authorities named," and concludes "that in a city of the size of Leeds, say, with a population of 500,000 inhabitants, 6250 persons may be expected to die from gastric ulcer or some of its complications." In other words, in the city of Leeds, with, say, a population of 500,000 persons, one in every 80 persons will die from ulcer of the stomach or some of its complications. But since children under five years of age very rarely, if ever, die from gastric ulcer, and since in a population of 500,000 children under five years of age form (approximately) 13 per cent. of the whole population, 6250 persons in 435,000 (which represents the population of Leeds, stating it at 500,000 *minus* the 65,000 children of Leeds under five years of age) will die from gastric ulcer; or one in every 69 persons over five years of age will, according to Mr. Mayo Robson, die from ulcer of the stomach.

Again, to put the matter in another way, the annual death-rate of persons (males and females) in Leeds was last year 20·05 per 1000. Consequently, the whole of the population of Leeds (estimated at 500,000) will be exhausted by death in 49·87 years. Therefore, the average annual mortality in Leeds from gastric ulcer will, according to Mr. Mayo Robson, be 6250 divided by 49·87 = 125 per annum. Or, again, the death-rate being 20·05 per 1000 per annum, it may be assumed that the same proportion holds as regards those who die from gastric ulcer, that is, 6250 multiplied by 0·02005 = 125 deaths per annum from gastric ulcer. But the death-rate in Leeds last year was in persons over five years of age 13 per 1000,[12] therefore (taking this death-rate as the usual standard) the annual average death-rate from gastric ulcer in persons over five years of age would be 0·013 × 6250 = 81·25. According to Mr. Mayo Robson, therefore, 81·25 persons above five years of age will on an average die from gastric ulcer in Leeds (estimating the population at 500,000) every year (granting, of course, that the total deaths (6250) are equally spread over 49·87 years).

Now what are the actual facts? My friend Dr. J. Spottiswoode Cameron, medical officer of health of Leeds, has kindly furnished me with the exact number of deaths which were registered as occurring in Leeds last year from gastric ulcer and duodenal ulcer. The number is 17. Of these 17 deaths eight occurred in the General Hospital and one in the Fever Hospital; three of the 17 deaths which occurred in the General Hospital were deaths of persons who came from outside of Leeds (from Ilkley, from Mosley, and from Gomersal respectively). So that as a matter of actual fact 14 deaths were registered as occurring in Leeds proper last year from gastric ulcer. In addition six deaths were registered from hæmatemesis (three between 25 and 30 years of age, two

[10] Lebert (Krankheiten des Magens, p. 196) found in 41,688 medical cases studied clinically 252 cases of gastric ulcer = 0·6 per cent. In 35,682 cases admitted to the medical wards of the Edinburgh Royal Infirmary (figures kindly furnished by the medical registrar, Dr. A. L. Gillespie) during eight years (from 1892 to 1899 inclusive) there were 803 cases of gastric ulcer = 2·2 per cent. In 42,219 patients admitted to the medical wards of the Charité Hospital, Berlin (Charité Annalen) during the 10 years 1888-89 to 1897-98, there were 555 cases of gastric ulcer = 1·07 per cent. In 116,323 medical and surgical cases admitted to the K. K. hospitals in Vienna and the hospitals of Lower Austria (Reports of these hospitals) during the years 1893 and 1894, there were 433 cases of gastric ulcer = 0·37 per cent. And in 455,842 medical and surgical cases admitted to the same hospitals during the years 1896, 1896, and 1897, there were 1117 cases of gastric ulcer, duodenal ulcer, and perforative peritonitis from round ulcer (the numbers for each are not specified) = 0·24 per cent.

[11] Brinton's statistics, too, are open to the serious objection that a considerable proportion of the cases on which they were based were individual cases ("many hundreds of scattered cases, but always verified by careful necropsy, by scarcely less numerous observers"), which he (Brinton) had collected from journals and reports (British and foreign), as well as hospital museums. Statistics as to the total mortality of cases of gastric ulcer, based on such data, do not represent the total mortality in all cases of the disease.

[12] The population of Leeds last year was 431,287, or, excluding children under five years of age, say, 375,000. The death-rate per 1000 was 20·05. The deaths in 52 weeks ending Saturday, Dec. 29th, were 8619; of these, 3746, or 43·4 per cent., occurred in children under five years of age, and 4873, or 56·6 per cent., occurred in persons over five years of age. Therefore the death-rate per 1000 in persons over five years of age was 13.

between 40 and 50 years of age, and one between 70 and 80 years of age). Some of these deaths, perhaps the three between 25 and 30, were from gastric ulcer. Supposing that four of the six deaths registered as hæmatemesis were due to gastric ulcer (round, perforating ulcer)—and this is making a very liberal allowance—the total deaths from gastric ulcer in Leeds proper last year would be 18. But the population of the Leeds district from which these 14 deaths from gastric ulcer and four from hæmatemesis (which were perhaps gastric ulcer) were derived was 431,257 instead of 500 000. Therefore, in Leeds, if the population had been 500,000, 20·8 deaths would have been registered as due to gastric ulcer last year.

I am, of course, aware that the number of deaths from gastric ulcer varies, in the same city or hospital, sometimes very materially, from year to year; that small numbers are apt to be fallacious, and that the cause of death as registered does not in many instances accurately represent the true cause of death—peritonitis, for example, is not infrequently returned as the cause of death in cases in which the death is really due to the perforation of a gastric ulcer; some of the deaths returned as due to anæmia and cancer are probably, as Dr. Cameron has pointed out to me, due to gastric ulcer; on the other hand, some of the deaths registered as gastric ulcer are, perhaps, due to cancer; some deaths due to gastric ulcer are no doubt, also, returned as due to exhaustion. But, making ample allowance for these sources of fallacy, the difference between 20·8 (the actual number of deaths registered as resulting from gastric ulcer *plus* four out of the six deaths registered as hæmatemesis and taking the population of Leeds at 500,000) and 81·25 (the number estimated by Mr. Mayo Robson), is, I think, sufficiently great to prove that Mr. Mayo Robson's conclusions regarding the total mortality in Leeds from gastric ulcer must be incorrect. Most modern authorities who have carefully investigated the total mortality from gastric ulcer place it at from 8 to 15 per cent.: Dreschfeld,[13] for example, who gives no estimate of his own, quotes Lebert's estimate, viz., 10 per cent.; Welch,[14] who thinks Lebert's 10 per cent. too low, says "perhaps 15 per cent. would be more correct;" and Riegel[15] places it from 8 to 10 per cent.

THE FATALITY OF HÆMORRHAGE IN CASES OF GASTRIC ULCER.

Mr. Mayo Robson's conclusions with regard to the frequency with which fatal hæmorrhage occurs in cases of gastric ulcer also, I think, require correction. He states: "Hæmorrhage, which according to different authorities occurs in greater or less degree in 50 to 80 per cent. of all cases of gastric ulcer, and is, according to various authorities, fatal when medically treated in from 11 to 3 per cent. (Müller, 11 per cent.; Welch, from 3 to 5 per cent.; Brinton, 5 per cent.; Debove, 5 per cent.; Steiner, 6·36 per cent.; Lebert, 3 per cent.; Dreschfeld, 3½ per cent.; and Rodman, 8 per cent.). If we take the average, 7 per cent. of deaths in cases of gastrorrhagia from gastric ulcer will not be far from the truth.[16] If this is worked out in the population of a city like Leeds it means that of the 25 000 persons who have or had ulcer 12,500 suffer from hæmatemesis, and of these 7 per cent., or 875, die." There is, it seems to me, a serious error here, for the percentages of death from hæmorrhage which Mr. Mayo Robson quotes from different authorities,[17] with, so far as I have been able to ascertain, the exception of Rodman,[18] refer not to the percentage of deaths in those cases of gastric ulcer in which hæmorrhage occurs (which Mr. Mayo Robson estimates at 50 per cent. of the whole), but in the total number of cases of gastric ulcer. If, therefore, 7 per cent. of all cases of gastric ulcer die from hæmorrhage Mr. Mayo Robson's figures will have to be doubled; in other words, in a population like Leeds, say, of 500,000, 1750 will die from hæmorrhage. And if this number is spread over 49·87 years (in accordance with the estimate that 20·05 per 1000 of the population die in Leeds every year), and if children under five years of age are deducted, the deaths per annum in Leeds from hæmorrhage in gastric ulcer will, according to Mr. Mayo Robson, be on the average 1750 multiplied by 0·013 = 22·75. As a matter of fact, three deaths were registered as occurring last year in Leeds from hæmorrhage in gastric ulcer. If we add to these four of the six deaths which were returned as hæmatemesis and which were perhaps gastric ulcer we have a total of seven deaths from hæmorrhage in gastric ulcer. Consequently, after correcting the figures (since the population of Leeds last year was not 500 000 but 413,287), the number of deaths from hæmorrhage in gastric ulcer in Leeds, if the population had been 500 000, would (including the hæmatemesis cases which were perhaps gastric ulcer) have been 8·1.

Errors of registration are perhaps less likely to occur in the case of hæmorrhage than in the case of perforation. It is true that in cases of gastric ulcer death occasionally results from internal hæmorrhage without any external discharge of blood in the form of hæmatemesis or melæna, but these cases are so exceptional that for practical purposes they may be disregarded. Some deaths due to hæmorrhage in gastric ulcer are returned as hæmatemesis (I have amply allowed for these), and others perhaps as exhaustion, anæmia, &c. The disproportion between the 8·1 deaths, the actual number which were returned as due to hæmorrhage in gastric ulcer, last year in Leeds (calculating the population at 500,000), and the 22·75 deaths which, according to Mr. Mayo Robson (if I am right in thinking the percentages which he quotes, with the exception of Rodman's, refer to all cases of gastric ulcer), ought to have occurred from this cause is very considerable. Physicians who have had large experience in gastric ulcer will, I fancy, agree with me in thinking that, although the condition of the patient is often most alarming, death from hæmorrhage in cases of gastric ulcer very rarely occurs, and that even in those cases in which repeated hæmorrhages occur it is only in comparatively few cases that the patient dies from bleeding. At the meeting of the Medico-Chirurgical Society I stated that, so far as I remembered, I had never seen a case of fatal hæmorrhage in an uncomplicated case of gastric ulcer. I find that I was mistaken. One fatal case of hæmorrhage due to gastric ulcer has occurred in my hospital practice. In another case which I saw in consultation in Edinburgh the patient I now find died four days after I saw him from exhaustion following hæmorrhage. That case I regarded at the time as a case of duodenal ulcer. In going over my notes of the case I do not feel satisfied that the diagnosis of duodenal ulcer was correct; it may have been a case of gastric and not of duodenal ulcer. Consequently, in 127 cases of gastric ulcer (including the case diagnosed at the time as duodenal ulcer) which I have seen either in consultation practice or treated as in-patients in hospital, there were (so far as my present information enables me to judge) two deaths = 1·57 per cent., or if the doubtful case (of duodenal ulcer) is excluded, one death from hæmorrhage in 126 cases of gastric ulcer = 0·77 per cent. I include the 27 cases of gastric ulcer and the one doubtful case of duodenal ulcer seen in consultation practice, for in several of these the hæmorrhage was alarming; and I exclude the 76 cases seen in out-patient practice, for in very few of them was the bleeding severe, and because many of them were only seen once and I have no records of their after-history.

[13] Clifford Allbutt's System of Medicine, vol. iii., p. 541.
[14] Pepper's System of Medicine, vol. ii., p. 502.
[15] Nothnagel's Specielle Pathologie, vol. xvi., p. 697.
[16] 7 per cent. does not represent the mean of the percentages quoted but the mean of the extremes.
[17] As regards Lebert and Steiner I speak subject to correction, but I have little doubt that the same statement applies also to their percentages.
[18] Rodman's statement is: "Hæmatemesis occurs in at least 50 per cent. of all cases of gastric ulcer, and many authorities estimate it as present in 80 per cent. It is, too, fatal in 8 per cent. of the cases in which it occurs, according to the conservative estimate of Leube, and we cannot question that it is indirectly fatal in a much greater number of cases by anæmia and its remote consequences."—The Journal of the American Association, June 16th, 1900, p. 1509.

INFECTIOUS DISEASE IN EXETER.—During 1900 there were 176 cases of infectious disease treated at the Exeter Sanatorium, being 52 less than in 1899. The cases comprised 86 of typhoid fever, 79 of scarlet fever, nine of diphtheria, and two of measles. Of the 176 cases, 66 came from the county, reducing the number from the city to 110.

DEATHS FROM SNAKE-BITE.—Sir Joseph Fayrer, gave an interesting lecture on "Venomous Snakes" at the Falmouth High School on March 1st. He mentioned that the last annual report from the Indian Government showed that 2966 persons died in the preceding year from the attacks of wild beasts and 24,621 from snake-bites. The great mortality from snake-bites did not seem to diminish, in spite of all the efforts of the Government.

The Lettsomian Lectures

ON

DISEASES AND DISORDERS OF THE HEART AND ARTERIES IN MIDDLE AND ADVANCED LIFE.

Delivered before the Medical Society of London

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LECTURE I.[1]

Delivered on March 4th.

MR. PRESIDENT AND GENTLEMEN,—My first duty this evening is to thank you for the honour you have done me by selecting me to deliver the Lettsomian Lectures for the present year. My second duty is to spend as little time as possible on preliminary remarks, for three hours are all too brief for the useful presentation of material collected for a purpose like the present. In selecting the subject of my lectures I was mindful of the character and objects of this society. In the Medical Society of London there is a fuller blending of men engaged in family practice with men holding hospital appointments than is the case at most of the other learned societies connected with our profession in London, and there is here an opportunity for free communication of experience and interchange of opinion between these two classes of our Fellows which cannot fail to be profitable to both. Therefore I have taken up a subject of thoroughly practical interest and I will attempt to present it to you from the point of view of the practitioner. The problem of the diseases and disorders of the heart and arteries in middle and advanced life may be said to come before the family practitioner every hour of his work and to present difficulties and create a sense of responsibility or even anxiety which are not sufficiently appreciated by the hospital physician. There comes before him the case of one of his patients, an active business man, 45 years of age, who has been seized with angina pectoris when hurrying to the station after breakfast, or that of an old friend whose proposal for an increase of his insurance at 50 years of age has been declined because of arterial degeneration and polyuria; or he is asked to say whether a man, aged 60 years, occupying an important and possibly distinguished position in the community, ought to retire from public life because he has occasional attacks of præcordial oppression and a systolic murmur at the base of his heart. What, again, is he to do for the stout free-living man, just passing the meridian of life, who consults him for weakness and depression, whose heart is large and weak, and the urine saccharine and slightly albuminous? There is not one of my audience who has not met with such cases as these many times in his practice, and a variety of other cases of cardiac disorder and disease after the age of 40 years where the importance of the individuals, the value of their lives, and the gravity of their complaints and their prospects have exercised him very anxiously. What is the prognosis in cases of this order? What can be done for them in the way of treatment? These are the questions which we would desire to answer usefully. The answer, it seems to me, can be given only after an analysis and study of a considerable number of instances of the kind, in respect of their origin, their clinical characters and course, and the result. This is the method of inquiry which I propose to follow. It will be a study of cardio-vascular disease in older subjects from the clinical point of view, but it will be approached not only from the ordinary clinical side as it is approached in hospitals—that is, by an investigation of symptoms and signs—but also, and especially in the light of that particular order of knowledge which the family practitioner has learned to appreciate and has so intimate and correct an opportunity to acquire, a knowledge of the origin or causes of the different affections which it is always difficult and often impossible for the hospital physician to ascertain and which he is perhaps apt to ignore. For the same reason—although to be complete a study of the diseases of the circulation at and after middle life should include an account of the post-mortem characters found in fatal cases—I shall not attempt to describe the pathological anatomy and histology of senile and other lesions of the heart and arteries.

Before, however, examining the influences and circumstances which disorder and damage the circulation in middle and advanced life, let us see what the normal or natural state of the heart and arteries is after the fortieth year of age. It has been ascertained that the different parts of the circulatory apparatus pass through certain definite phases of change in the different stages of that decline of existence and energy which leads to senility and ends in death. We have to thank Professor F. W. Beneke of Marburg for the results of a laborious investigation of this subject[2] which are generally accepted and which I will attempt to summarise.

We should all expect the cardio-vascular system to undergo important changes with increasing age, but few of us would be prepared to find that these changes are neither uniformly progressive nor progressive in the same direction. To make more easily intelligible the nature and, as far as possible, the origin of these anatomical alterations in the heart and arteries during the second half of life I will first refer for a moment to the condition of the circulation in persons from 20 to 45 years of age. During this period of life the blood-pressure is relatively high (reaching its maximum about the age of 36 years), the aorta and other large arteries increase in diameter from the stress of the blood-pressure on their elastic walls, particularly between the ages of 35 and 45 years, and the heart increases in size year after year at a nearly uniform rate. We have in these facts anatomical evidence of the great functional vigour and activity of the circulation in manhood. At the age of 45 years, which is practically the commencement of the period with which we are concerned, remarkable changes occur. Whilst the arteries continue to increase in circumference (somewhat more slowly than before), the blood-pressure falls and the heart begins, almost suddenly, to diminish in size, and these three features characterise the circulation for the next 20 years—that is, until the age of 65 years. How is this fall in the size of the heart to be accounted for? Partly by the widening of the arterial trunks and the consequent fall of pressure. But not by these only, for although the arteries had been widening even more rapidly between the ages of 20 and 45 years, the pressure was actually at its maximum then and the heart large; and we shall presently find other facts opposed to this view. The peripheral resistance in the systemic arteries must fall from some other cause or causes in middle age than the loss of elasticity of the arterial walls—and these causes are probably reduction of mechanical stress, due to comparative bodily relaxation, loss of vaso-motor tone in the splanchnic area, and the chronic diseases of which the subjects have died whose hearts and vessels are measured post mortem. During this phase of life, also, the blood becomes more venous in quality and its hæmoglobin value is lowered.

At the age of 65 years other changes which occur in the heart and arteries are not less striking than those which I have just described. The decline of circulatory energy and the effects of time itself on the protoplasm of the cells of the body have so lowered the metabolic and functional energy of the tissues and organs and the activity of the blood-supply that a considerable proportion of the capillary network becomes obsolete. The peripheral resistance is thus increased; the blood-pressure rises; therefore the heart once more increases so much in size that at the end of 10 years (i.e., at 75 years of age) it is found as large as it was at the forty-fifth year, and at the same time the hæmoglobin value of the blood again proves to be higher. During this period also the arteries continue to grow wider and thicker and longer—another proof that the size of the heart is not determined solely by their calibre. Regarded as a whole, the process of senescence of the cardio-vascular system presents to us a beautiful instance of anatomical readjustment and compensation, the counterpart in a way of the growth of the circulation in energy and activity during the period of full manhood. The arterial walls which have been stretched in their diameter and in their length by exhaustion of their elasticity under the stress of cardiac systole are strengthened afresh

[1] Lectures II. and III. will be delivered on March 18th and April 1st, 1901, respectively.

[2] Die Altersdisposition.

by the development of stays formed of fibroid tissue in the intima and media; and the heart responds to the altered mechanical condition ahead of it in the arteries, and to the increased peripheral resistance caused by the obsolescence of many capillaries, by growing afresh. This account relates to the size of the arteries after the age of 40 years. Now let us inquire what is the condition of their structural elements. The changes described do not necessarily involve disease of their tissue-elements—unless we are to call every senile change morbid.

My friends, Dr. Bosanquet and Dr. Mullings, have given me an account of the state of the heart and aorta in the bodies of 25 men, aged 40 years and upwards, who died from accident or suicide. The average age was 53½ years; and the aorta presented some degree of atheroma in half of the cases. When we consider how very slight a change in the arch of the aorta is habitually described as "atheroma" and that in a few of the cases the valves were diseased, and the heart enlarged, we are justified in concluding that in the majority of persons of 53 years of age the arteries are still sound. This result is in accord with that obtained by the late Professor Humphry who devoted his attention so long and so successfully to the investigation of old age. He states that in the great majority of cases the arterial system appears to present a healthy condition in those who attain to great age.[3] Even among the majority of centenarians the evidences of arterial degeneration were not manifest.[4] And we know that persons of 80 years of age and upwards are occasionally met with whose pulses are unexceptionable beyond presenting a trace of thickening and enlargement. For my present purpose it may, therefore, be concluded that as age advances the arteries naturally become wider, longer, and thicker, and altogether larger than in early life, and that we must not speak of "vascular degeneration" in an evil sense as often as we find these conditions present. As for the heart we know that it may remain structurally sound, and is more often regular than irregular, to the most advanced years of life.

After the age of 40 years many of the influences that threaten the heart and arteries with disorder and disease are peculiar to this period of life—that is, different and distinct from the causes of cardiac and vascular affections in childhood, adolescence, and manhood. I will now examine them in detail and at the same time refer to certain provisions with which the heart and arteries are endowed for resisting them and recovering naturally from their effects.

PHYSICAL STRESS.

This is still a definite cause of cardiac and vascular damage in the second half of life, in the forms both of sudden violent exertion and of ordinary laborious occupations. I have met with instances of acute and serious strain at all ages over 40 years, up to and even after 70 years. In some of my cases there was no reason to believe that the heart was other than sound before the strain; but in a majority of them (and I have analysed 40 of which I have more or less full notes) one or more of the safeguards of the circulation against strain were already defective or wanting. What are these? In the heart, chiefly a high degree of extensibility or elasticity of its tissues, permitting overdistension of the chambers with safety-valve action of the tricuspid in extreme cases, and a sound and vigorous musculature to effect the increased action and if necessary the hypertrophy which mechanical stress demands; in a word, well-nourished healthy cardiac walls. It is an interesting fact that two thirds of my cases of cardiac strain in the second half of life presented also a history of gout, fully-developed or irregular—in other words, a history of perverted metabolism.

The principal safeguard which the arteries possess against strain is of course the extensibility and elasticity of their tissues. Unfortunately, the metabolic disorders, including gout, which we have just found weakening the cardiac walls, are amongst the commonest causes of arterial degeneration also, and the two influences acting together no doubt are accountable for a considerable number of cases of atheroma and chronic arteritis. It is unwise, ill-timed, ill-planned muscular exercise that injures the circulation, most often on the part of the middle-aged man who, awaking to the consciousness of growing fat and gouty, rushes inconsiderately to violent exercise for relief.

[3] Humphry: Old Age, 1889, p. 23.
[4] Op. cit., p. 48.

NERVOUS INFLUENCES.

It is generally recognised that nervous excitement taxes the circulation, and quite recently Dr. Leonard Hill and Dr. George Oliver have demonstrated instrumentally the rise of blood-pressure that accompanies cerebral activity. No doubt many cases of disorder and disease of the walls of the heart and arteries originate in distress, worry, anxiety, and protracted suspense; and the connexion is most often seen in middle and advanced life because these depressing emotions fall most heavily upon mankind at this period. Nevertheless, however clear the direct connexion between nervous strain and cardio-vascular disease may be in many instances, it is in other instances normal, or, more correctly, indirect only. This is a matter of great practical importance. First, the nervous temperament often drives the subjects of it to physical overwork in the form of incessant and prolonged devotion to work with insufficient hours of rest and sleep. In the second place, alcohol undoubtedly plays an important part in many instances regarded as overwork and worry and nervous exhaustion. And thirdly, many of the complaints of nervous depression, lowness, and worry are really due to gout, to influenza, and the like, which are at the same time the true causes of the cardiac symptoms.

EXTRINSIC POISONS.

What I have just said in connexion with nervous causes of cardio-vascular affections brings us naturally to that important group of agents which may be summarily called "extrinsic cardiac poisons"—alcohol, tobacco, tea, coffee, and lead—and I shall have occasion to refer to some of these poisons at greater length under the head of diagnosis.

Alcoholic heart occurs both in men and women; tobacco heart is extraordinarily common in our own profession and common in clergymen and in retired members of the public services; tea, coffee, and cocoa heart I have met with principally in students.

DISTURBANCES OF METABOLISM, INCLUDING GOUT.

There can be no question but that these are by far the most prolific cause of cardio-vascular disorder and disease after 40 years of age—at any rate, amongst the middle and higher classes in this country. This period of life brings with it in many instances comparative relaxation from work and a disposition to substitute quiet, or even passive, for active exercise; and whilst the demands of growth and development on the alimentary system have greatly declined the pleasures of the table and ease generally are too often indulged in as a privilege of advancing years and the legitimate reward of previous years of work. The results are functional disorders of the liver, gout in regular and irregular forms, gravel, and the many associated disorders of the muscular, nervous, and other systems. The heart, blood-vessels, and kidneys are kept under incessant strain; and chronic Bright's disease and cardio-vascular degeneration are not uncommonly the result.

SYPHILIS.

This fruitful cause of vascular disease, and both directly and indirectly of cardiac disease, has by no means ceased to attack the organs of circulation after the fortieth year. Whatever the date of the primary infection syphilis is a standing danger to the heart and arteries in the middle-aged man, and even in declining years.

ACUTE DISEASES.

For the man and woman of 40 years of age and upwards most of the acute specific fevers are affairs of the past. But the liability to several of them remains and very unfortunately the liability to those acute specific processes which may attack the cardio-vascular system—influenza in particular, and less often typhoid fever, rheumatism, diphtheria, and pneumonia, as well as septicæmia of different forms or kinds which work havoc throughout the entire circulation. I should have had more to say under this head but for the fact that our distinguished Fellow and former President, Dr. A. E. Sansom, has thoroughly investigated it and on more than one occasion laid the results before you.

CHRONIC DISEASES.

I will not occupy your time in tracing the origin of certain cases of cardio-vascular disease in middle and advanced life to chronic affections of different kinds. Besides the obvious effects upon the heart, blood, and blood-vessels of anæmia, exhaustion, &c., we meet with such grave lesions as fatty

degeneration from pernicious anæmia and other blood disorders, profound circulatory derangements, and occasionally disease in Graves's disease, and others.

COMPLEX CAUSES.

In addition to the definite and distinct influences which I have mentioned as threatening the heart in this stage of life there are two which, although intimately associated with other causes of cardio-vascular disease, deserve to stand out independently. The first of these is emphysema, and along with it other chronic diseases of the lungs and pleura which strain the right ventricle; the second is chronic Bright's disease which similarly strains the left ventricle.

[Dr. Mitchell Bruce here referred to cardio-vascular disease as affecting certain classes of society, "soldier's heart" being taken as the type. He continued:]

I have now arrived at the last, and certainly one of the most interesting, of the causes of disease of the heart and arteries in middle and advanced life. There are some persons whose hearts and arteries cannot carry them through the wear and tear of what may be called ordinary everyday life for more than 40 or 50 years. The vital energy of their tissues is exhausted prematurely; they are already old at 45 years of age; degeneration of their muscular and other cells sets in early, reminding us of the essential myopathic paralysis of children. This type of case is described as "family heart," for it also runs in families, three, four, five, or more members of which, as in instances which I have myself observed, may have all died suddenly from cardiac disease, some of them at an early age. Similarly, it is not by any means unusual to find quite young subjects—say, of 30 years of age—with vessels already much enlarged, and, I may add, equally young subjects with their lungs already emphysematous, although there is no history of respiratory strain, reminding us of the very common association of emphysema with arterial sclerosis in old age. These cases of family heart and premature arterial sclerosis are the links that connect disease of the heart and arteries in middle and advanced life of definitely pathological origin with the genuinely senile changes in the tissue-elements which render existence untenable at last, and which may be said to be the result of the exhaustion of their nutritional activity by the thousand natural shocks that flesh is heir to.

PURE UREA IN THE TREATMENT OF TUBERCULOSIS.

BY HENRY HARPER, M.D. R.U.I.

DURING the last 19 months I have used pure urea in a large number of cases of different forms of tuberculosis, and I believe it to be a remedy of superior value to any that is used for this disease at the present time. I have administered it both internally and hypodermically with satisfactory results.

The first thing that attracted my attention to tuberculosis was Dr. (now Sir) Hermann Weber's lectures on Tubercle in the *British Medical Journal* of 1884. Since then I have given much attention to this disease, about 200 cases coming under my care every year. It was in those lectures I first saw any clear statement of the curability of phthisis. A few years previously to this, on my rounds attending hospital, I felt pity for every case of phthisis in the ward. The visiting physician would pass it over with a nod of his head: "Gentlemen, this is a case of phthisis; nothing can be done for it." Since then the accumulating proof of the inherent power of the body to resist the ravages of the tubercle bacillus has become more convincing each year. Fowler's grand little work on "Arrested Pulmonary Tuberculosis" emphasises what every physician had noticed clinically—namely, the curative powers of the body in certain cases of this disease. And although the practitioner who sees much tuberculosis has continually to witness failure on the top of failure to effect a cure, I always hoped from the number of successes which I had seen that a time would come when general success would be more complete. We may trust that that era is now arriving, and that with our increased knowledge of the bacteriology and clinical history of tuberculosis, coupled with the open-air treatment and the efforts made by the National Association for the Prevention of Consumption and Other Forms of Tuberculosis, good should result. I hailed with delight the inception of that association, considering it a noble movement, and I became a member; but my experience of tuberculosis leads me to believe that more radical remedies will be needed than fresh air and the ordinary sanatorium, and that the key-note to this will be in a careful revision of our diet list.

I may state in passing that quite half of my cases of tuberculosis come from the country, and this is hard to reconcile with the view that country air is a remedy for tuberculosis. Indeed, the most destructive cases of this disease which I have seen have been in the open country in the north of Ireland and in the lake district of England. In Ireland a farmer whom I knew had his residence on the top of a very high hill, a long distance removed from another dwelling—an ideal spot for health; yet the father and all the children were carried off by tuberculosis.

"Some individuals are preserved although living in the same air and hygienic conditions as those who succumb; they have only differences in their food. Phthisis and scrofula are to be seen in the most diverse climates under the most diverse hygienic conditions in towns and countries where the diet is the one thing arbitrary and variable. Is it one of the causes of tuberculosis?"[1] The writer of the foregoing sentences, in his "Bacillary Tuberculosis," lays much stress on the power of the bacillus to grow in vegetable substances such as potato. He also points out that potash salts favour the growth of the bacilli. He says: "The food of adult animals contains soda and chlorine in the same proportion for the herbivora as for the carnivora, whilst the quantity of potash in the food of the herbivora is from two to four times more considerable. To obtain the necessary supplies of albuminate for daily use they are obliged to consume enormous masses of vegetable matter containing much potash. That is, perhaps, why they are especially subject to tuberculosis. ..... The horse and pig are preserved up to a certain point by food containing much soda, as oats. The carnivora, dogs especially, rarely become tuberculous. ..... [Oats being rich in albumin increase the urea.] All vegetables are rich in potash and poor in soda. It is the same with the milk of the herbivora. In meat, the food of carnivora, potash and soda are in equilibrium, and they are found in the proportions required by the bodily expenditure of these animals." Is it possible that this excess of potash salts in the food of the cow accounts for the frequency of tuberculosis in children who are hand-fed on cow's milk? It was in the work which I have quoted that I first saw it pointed out that carnivorous animals show great immunity to the tubercle bacillus. Whence this immunity? On the other hand, some herbivora show a marked natural selection to provide a favourable soil for the bacilli to thrive in. For years an answer to these questions has often come up in my mind. On looking over my notes of cases of the family history of patients I find that families showing a marked tendency to gout, gravel, and calculus rarely suffer from tuberculous disease. Harris and Beale in their work on "Pulmonary Consumption" say: "We have ourselves seen an apparently complete arrest or cure of pulmonary tuberculosis considerably advanced in the case of a patient who suffered severely from an intercurrent attack of gout." On the other hand, in families where as many as eight children have been carried away there seems to be a puny, sickly state of body, patients choosing to live on farinaceous food—vegetables, fruit, &c.—in short, bad meat-eaters. With this idea I have urged on tuberculous patients the importance of consuming as much animal food as possible. At the Manchester meeting of the British Medical Association the value of a superabundance of meats in the diet for tuberculous disease was discussed, and I think that the profession was nearer grasping a remedy than at any time since.

Again, why do glycosuria and tuberculosis appear so frequently in the same patient? Surely this is not a coincidence. Does it not look as if the saccharine fluids were a suitable pabulum for the bacilli to grow in? Further, why are the goat and the horse immune, and sheep rarely tuberculous, while the milch cow is notoriously susceptible to the bacillus and the rabbit and guinea-pig highly so? We have yet to discover the cause of this immunity. One may speak vaguely of the susceptibility of certain animals to the growth of tubercle; but my opinion is that it will be

[1] Germain Sée.

found in the chemical composition of the urine, and that urea and uric acid play an important part in rendering an animal immune or the reverse.

I take the case of a particular family. I cannot find any trace of tubercle on either the father's side or on that of the mother. The diseases which I find frequent in this family are gout, gravel, calculus, rheumatic arthritis, bronchitis, and the different forms of Bright's disease. I take a member of that family whose occupation has exposed him for the last 15 years daily to the inhalation of bacilli in large quantities, except for three weeks annually during a holiday. I find him as free from tubercle to-day as he was 15 years ago. Why this immunity? I believe it to be dependent on the above-given family history—that is, that his tissues are charged with urea and uric acid, &c., to such an extent that he is immune to tuberculosis, the bacilli not finding a suitable soil to grow in. My impression is, that if we saturate a patient with urea or uric acid, this, in combination with the fluids of the body, would act as an antitoxin to the bacilli. This seems to be the most likely explanation which we can offer for a case like the following. In one family which I attend seven children have died from tuberculosis between the ages of three and 26 years. The parents, who are fairly strong, were reared in the country. The mother's family was tuberculous, while the father's was free from that disease. A few years after marriage they came to Nottingham. Their eldest child, 12 years old, was taken suddenly ill with acute tuberculosis and died within six weeks. One year after this death the third in age was taken ill with the same disease and died after 10 weeks' illness. The father changed his house to avoid the possibility of infection. The same year two more children, aged 11 and 15 years, were taken ill; one died within nine weeks and the other lingered for 11 months. Most careful hygienic measures had been taken to promote health. The children were kept from school, given careful daily exercise in the fresh air, and were educated at home. Again the father changed his residence, moving three miles into the open country in the hope of saving the remaining children. Two years later another child was taken ill with the same symptoms and died from acute tuberculosis. Again they changed house in the country, and still most careful sanitary precautions were taken to avoid any possibility of infection. Three years passed without any illness in the house. Two more were taken ill simultaneously and the disease in each case ran a rapid course. Only one little girl has been left, but though both she and the parents are alive the daughter is tuberculous.

Why is the negro so liable to tuberculosis? He lives out of doors enough; the question of fresh air treatment cannot apply here. I think the explanation will be found in the food he lives on, this consisting largely of starchy substances, such as rice, vegetables, and fruit. He is a small and irregular meat-eater. Again, the monkey, whose food closely resembles that of the negro, is very prone to tuberculosis. By the way, it has long been recognised that the teeth of the highly tuberculous are ivory white, resembling the clean white teeth of the herbivora. On the other hand, the teeth of the gouty are crusted with concretions consisting largely of lime salts and chemical substances closely allied to calculus.

Along with the administration of urea I apply treatment in the broad sense—that is, pure air and plenty of nutritious foods, urging most of all those rich in albumin, and including daily one kidney well cooked, with half a pint of very concentrated beef-tea; also exercise in the fresh air as freely as possible, and in carefully selected cases, if there is no hæmorrhage, light dumb-bells and Indian clubs are practised. Drugs of recognised value are given—iron and cod-liver oil more frequently than any—occasionally medicines to improve digestion, such as hydrochloric acid, strychnia, and pepsin, and creasote in combination with cod-liver oil. In short, urea has been added to the remedies which I formerly used. On two occasions this treatment has called forth symptoms of gout—viz., pain in the big toe-joint and pain in the lumbar region, accompanied by gouty urine containing nearly double the normal quantity of urea. On lessening the animal food and increasing green vegetables these symptoms soon passed off. Carter says: "There is room in plenty both for pleasure and profit by habituating ourselves in our daily work to the exercise of our imagination in picturing to our minds as intelligently and yet as graphically as we can what we conceive to be the morbid conditions of parts hidden from our view in the patients who come before us; to endeavour to form for ourselves as plausible impressions as our knowledge permits of the morbid processes which are taking place—hypothetical though they may be; to fix such pictures in our minds and to compare them with previous pictures of other cases which appear to us to have points in common, in the hope of educing rules for our guide in practice, to work out in our minds the probabilities of causation and their mode of action." This mode of treatment is in keeping with what we know of other remedies which have been used with success in tuberculosis—e.g., nuclein, a substance which increases the metabolism of the organism, and cod-liver oil rendering the chyle more easy of absorption by the lacteals. Physiology tells us that oil must be present where growth and cell-formation are going on. Iron and the hypophosphites increase oxygenation in the blood and tissues. Pure air and rich food containing a superabundance of urea render the tissues and fluids of the body proof against the bacilli finding a suitable soil—in short, they act as an antitoxin.

CASE 1.—A business man, aged 40 years, came under my care on June 7th, 1899. He had been ailing for one year. His indisposition began with insomnia from overwork. Six months previously he had an eczematous rash which remained till within seven weeks of his being seen by me. Two months before coming under my care he was taken suddenly ill with terrible pain on the right side of the diaphragm and was told by his medical attendant that he had "distended heart." He was rapidly losing flesh. He complained of "stuffiness" and of a feeling as of a "band" round the midriff. There was desperate dyspnœa on exertion. The respirations were 32 per minute, with a very quick-beating heart, missing every sixth or seventh beat. The epigastrium was very tender, with marked cardiac impulse. Percussion was very dull, bilateral to the level of the sixth rib. A hypodermic needle was inserted between the ninth and tenth ribs bilaterally and very dark fluid was drawn off. A diagnosis of bilateral pleurisy with pericardial effusion was made. Daily hectic made it soon apparent that there was something more underlying this. Examination of the sputum showed tubercle bacilli, but there were no bacilli in the pleurisy fluid. Here the prognosis was as hopeless as possible. For three weeks the patient was put on approved remedies, including iodide of potassium, salicylate of soda, and digitalis without any improvement. On June 28th the urea was ordered in scruple doses four times daily. Within seven days improvement was very noticeable in the dyspnœa. The respirations were 28 per minute. On this day a crackle was discovered in the left lower axilla denoting the focus of the tubercle bacilli. By July 15th the patient had made great improvement and was able to walk freely on level ground and go up and down stairs with ease. From this time onward the improvement was rapid, the physical signs of disease within the chest quickly departing. Immediately after giving urea the urine increased in quantity and contained more urea and solids. On Sept. 19th the patient was quite well; all signs of pleurisy fluid had gone, there was no cough or expectoration, and he expressed himself as being "as well as ever he was." In January of this year I had a message from the patient saying that he was in the best of health.

CASE 2.—The patient, a man, aged 25 years, who came under my care on Jan. 12th, 1900, had been ailing for four years. The illness began with wandering pains all over the body, followed by swollen glands of the neck. He knew that syrup of the iodide of iron brought the glands down in size. He had worked long hours in a badly ventilated room. He had hoarse voice for a few weeks and a peculiar croupy cough. The evening temperature was 101° F. The left apex was slightly dull, with altered jerking respiratory sounds, and a focus of softening was audible there. The most noticeable feature of the case was enlargement of the lymphatic glands of the neck, all the chain running from the clavicle to the mastoid being enlarged from the size of a garden bean to a walnut. In the hollow above the notch of the sternum was a gland as big as a duck's egg. On each side of the neck above the thyroid cartilages was situated a similar gland. These three large glands seemed to compress the larynx and to produce obstruction to breathing. On Feb. 15th the patient was much worse. There was loud stridulous breathing and he was quite blue in the face and looked a picture of distress. I had a consultation with Mr. A. R. Anderson with a view to operation for the removal of the large glands. We agreed that they were tuberculous and that complete removal was impossible, and that the only thing remaining, if the breathing assumed a worse form, was to insert a tracheotomy tube. I may state here that I examined the sputum and found tubercle

bacilli therein, few in number, but tubercle unmistakeable. It was at this stage that I began hypodermic medication with urea, commencing with 40 grains dissolved in four drachms of distilled water, thoroughly sterilised. The syringe was sterilised as well, having a fine needle two inches long which I inserted deep into the gluteal region, injected slowly, withdrew the needle half an inch or so, and injected the remaining part of the urea at a more superficial depth in the muscle, the operation being done on both sides on alternate days. Within 24 hours there was a marked improvement in the condition of the patient. That night he was able to sleep at intervals and was eased of the choking. On my visit next morning there was less stridor and more steady respiration; his appearance was less livid. No apparent change in the size of the glands was noticeable before the tenth day of injection. At this date there was evidence of shrinking and accompanying this very marked improvement of the laryngeal trouble. Hitherto the patient had been striving to speak in scarcely audible whispers; now he could make himself heard. During the acute period of obstruction a quantity of very ropy white expectoration was raised. The hypodermic injection was used for 45 consecutive days. The patient was 6 st. in weight at the low point and he is now over 11 st. The hypodermic dose of urea was gradually increased up to 65 grains. No local injury or trouble attended or followed the hypodermic injections.

CASE 3.—A female, aged 20 years, came under my care in April, 1899. Three months previously she had had influenza, since which time she had been ill, had suffered from cough, and had lost flesh. The evening temperature was 101° F. There were a loud crackle and a focus of rapid softening at the left apex. The expectoration was teeming with bacilli, the thorax was flat, and the body was thin and wasted. On June 10th the patient showed no improvement. She was put on scruple doses of urea three times a day. On the 24th marked improvement was manifest. There was no hectic, the cough and expectoration were less troublesome, and the crackle at the left apex had gone. The patient had gained three pounds in weight. Careful examination of the sputum showed fewer bacilli but more cocci. On Sept. 15th the patient seemed quite well. The expectoration was free from bacilli, she had gained 10 pounds in weight, and the physical signs of lung disease had gone.

CASE 4.—A married woman, aged 52 years, came under treatment on August 20th, 1900. Her health had been failing for three years. There had been cough and loss of flesh, the decrease in weight during that time being 2 st. During the last year these symptoms had been much worse. There was terrible dyspnœa on the least exertion and the patient did not sleep well. There was no hæmoptysis but a large quantity of green sputum in the mornings was seen to be loaded with bacilli. Daily hectic was present and the appetite was poor. Physical examination showed extensive softening of the left lung all over with several cavities. There were also a crackle and softening of the right base at the back. The prognosis was grave—as hopeless as possible. The patient was put on compound mixture of iron with minute doses of creasote added. Urea was added in a separate mixture in scruple doses thrice daily. The patient was wheeled out in a bath-chair and gentle carriage exercise was allowed. On the 27th the patient was seen again when there was decided improvement; the appetite was better. This line of treatment was persevered in. After two months the patient was able to walk, and now she gets about freely and can stand a 15-miles' drive into Nottingham. She has gained seven pounds in weight, she eats well, there is very little cough, but the sputum still contains bacilli. Never before have I seen a case like this improve. I attribute the improvement to the urea.

CASE 5.—The patient, a female, aged 21 years, came under my care on April 30th, 1896. She had been in failing health for six months. Her illness began with anæmia followed by cough and much loss of flesh. There was also marked dyspnœa on exertion and the voice was hoarse (laryngitis). Physical examination revealed much crackle denoting tuberculous softening in the right apex. The sputum was loaded with bacilli. Under treatment the patient improved during the first year, but through the next year her condition remained stationary. She was now seized with influenza and there were hectic fever, rapid wasting, and profuse sputum. The strange part of the case was a soft baggy swelling that came in the left second intercostal space near the sternum. The swelling looked like a pointing abscess and was in communication with the cavity of the chest. I began to doubt my diagnosis and thought the case might be actinomycosis. To settle this point I inserted a fine aseptic needle and examined the pus, which was largely composed of cocci and a fair number of tubercle bacilli, but no ray fungus. I quite expected the abscess to point and discharge; it did not, but gradually got smaller and disappeared. The patient was very ill at this time, losing ground rapidly. At this juncture I began to give urea in scruple doses four times daily, along with an iron mixture nearly the same as the compound mixture of iron of the British Pharmacopœia and creasote combined. The patient soon showed signs of improvement. The appetite became better, there was less cough, and the sputum contained fewer bacilli and more cocci. I followed up this line of treatment for months, the patient gaining flesh and strength so much that she was able to cycle slowly on level ground during the summer. Now (January, 1901) the patient is in fairly good health, able to do household work, and is free from suffering. The sputum still contains bacilli. Again I attribute the recovery to the urea.

CASE 6.—The patient, aged 21 years, was first seen by me on Oct. 1st, 1900. He had been ailing for 12 months. The illness began with influenza, followed by cough and loss of flesh. Hæmoptysis was present; he had had 12 attacks in all. There was much dyspnœa on exertion. His father had died from phthisis. There was a large quantity of green sputum. The evening temperature was 101° F. Ziehl Neelsen staining showed under the microscope teeming bacilli and there was rapid softening of the upper half of the right lung. The patient had lost 12 pounds in weight. The prognosis was most grave. I ordered urea to be given in scruple doses four times daily, also compound mixture of iron. The patient, who lived in a country town, took plenty of exercise in the fresh air daily, along with gentle athletics, light dumb-bells, Indian clubs, &c. Abundance of nutritious food rich in albumin, a fresh well-cooked kidney every day, and good beef-tea formed the patient's diet, upon which he showed improvement from the first, steadily gaining in weight, losing the cough, and becoming entirely free from the expectoration. He now (Feb. 1st, 1901) considers himself well; there is no increase in the urea excreted.

CASE 7.—A married woman, aged 40 years, came under my care on Jan. 31st, 1900. Her illness dated from her confinement 22 months previously. She suckled her child for over one year. For six months she was very ill. There were cough and loss of flesh but there was no noticeable dyspnœa. Sleep was fitful and occasionally there were night sweats. The patient looked very thin, with bad thoracic movements. Neither auscultation nor percussion revealed any focus of softening, but the sputum when examined for bacilli showed these in abundance. On Feb. 14th a crackle and a focus of tuberculous infiltration in the right interscapular region were discovered. There was much expectoration and the lung was breaking up rapidly. For four months the patient was treated in the usual way. She lived in the country and spent as much time in the fresh air as possible. She was taking the usual remedies, including iron cod-liver oil, malt, guaiacol, and creasote. On June 6th, being no better, she was ordered to take urea in scruple doses three times a day. Within 14 days the improvement was very marked. I saw the patient fortnightly and the improvement continued to be steady. By Sept. 26th, great improvement had been made. The symptoms of softening had gone, there was no cough or expectoration, the appetite was good, and the patient had gained nine pounds in weight. She now believes herself to be quite well. The urea appeared to be most valuable in this case.

CASE 8.—The patient, a schoolboy, aged 13 years, was first seen by me on May 30th, 1899. He had never been strong. He had been ill for a week with a feverish cough and now he vomited blood. He was a very nervous boy. Respiration was quick and jerky, there was a crackle in the right supra-clavicular region, and the expectoration contained a few scattered bacilli. On June 27th, when the patient had been taking urea for four weeks, the expectoration had become free from bacilli, and the cough had gone. He said that he was quite well. All evidence of disease had disappeared. Now (February, 1901) he is in the best of health.

CASE 9.—A youth, aged 17 years, who came under my care on June 3rd, 1899, had been seized with influenza six

weeks previously. He had suffered from cough, loss of flesh, and failing appetite. He looked thin and ill-developed. There was hyper-resonance in the apices and a crackle in the left axilla denoted softening. Examination of the sputum showed a limited number of bacilli. A favourable prognosis was made. He was ordered to take urea in scruple doses thrice daily with cod-liver oil emulsion. On the 10th the cough was easier. There were more yellow expectoration and more distinct symptoms of softening of the left axilla. The patient looked better and said that he felt so. He had gained one pound in weight. On the 12th the crackle was less distinct and the patient had gained another pound in weight. On the 24th the symptoms of softening had gone, there was very little expectoration, and only two bacilli were found in the sputum. On July 22nd there were no cough and no physical signs of lung disease. The patient had gained eight pounds in weight since the treatment was commenced and he seemed to have quite recovered. When seen in October, 1900, he was quite well.

In all these cases the diagnosis was confirmed by microscopical examination of the sputum. All were indisputable tuberculosis, and nearly all were hopelessly bad cases such as I have never before seen to show any signs of improvement. From an extensive experience of urea in tuberculosis it is the only thing that I can call a remedy, and I think its value is best seen in this disease uncomplicated by the various species of cocci.

These notes are very imperfect, being only a rough-and-ready record of cases taken in the hurry of practice. Careful and systematic examination of the urea excreted by the kidneys previously to beginning the urea treatment is needed. Only in two of the cases in which I have examined the urine with Martindale's ureometer have I found any increase in the quantity of urea excreted. I have examined the sputum frequently and almost invariably have found lessening or disappearance of the bacilli. One thing I feel sure about is that urea given in this way has produced cure in some and improvement in others in a series of bad cases of tuberculosis that hitherto my experience has led me to look upon as incurable.

On examining the diet list of any sanatorium the predominant idea seems to be to introduce into the body as much animal food rich in albumin as possible, I would remark in reality urea producers; this, coupled with free exercise in the pure air, increases metabolism, and here it is probable that urea plays an important part in the treatment. From our knowledge at present of the management of tuberculosis all remedies used in combating the disease must be constructive, not destructive.

In the laboratory I have tried twice to get the tubercle bacilli to grow in freshly prepared meat-broth, adding urea from 1 to 0·001 per cent., at the same time inoculating a tube without urea as control. In the control-tubes bacilli grew all right in the incubator; those with the urea added failed. Unsupported this experiment is useless, so I applied to the Jenner Institute of Preventive Medicine to carry out an experiment by feeding a guinea-pig for a time on urea given with the food and then inoculating the animal with tubercle bacilli. This they very kindly are carrying out and the result will be published later. The bacteriological portion of the work was done in the laboratory of Mr. Trotman, city analyst, and Messrs. Allen and Hanburys supplied me with pure urea.

Nottingham.

A CASE OF PEMPHIGUS NEONATORUM IN AN INFANT THREE DAYS OLD.

BY CHARLES J. GLASSON, M.D. BRUX., M.R.C.S. ENG., L.R.C.P. LOND.

THIS case I consider to be one which is so uncommon as to warrant publication.

On Nov. 8th, 1899, the infant was born. There was nothing unusual in the labour, and the baby after being washed presented the usual appearance. The infant, a fine healthy boy, was above the ordinary weight, and was quite free from any spot or blemish. There was the usual exfoliation that takes place in every newly-born infant. On the third day the nurse asked me to look at the infant as he had, as she termed it, the "milk rash" very badly. I examined the boy and was surprised to see a large one of a bullous nature on the occipital portion of the scalp, round in shape, filled with a cloudy fluid and surrounded by a bright red ring of inflammation; there were several smaller spots of a like character around the larger one, and others on different portions of the body. The boy did not appear to be in any way affected, took his food, and slept well and easily. I ordered a small dose of Dinneford's fluid magnesia to be given at once. There was no jaundice; the tongue was slightly coated. On the next morning, however, the spots had increased over the whole body; the face, scalp, and limbs being covered, many running into each other; all had exactly the same characteristics. The case was one of acute pemphigus. The general condition of the infant was worse; he was restless, constantly crying, and would not take his food; he was very feverish, his temperature being 104° F.; his bowels were constipated; and the urine was scanty and smelling very offensively. A very large patch of the size of a shilling had appeared on the nape of the neck which had been rubbed, and a thick purulent fluid exuded on to a soft handkerchief which the nurse had applied. I at once had the infant undressed and I pricked each spot separately with a clean aseptic needle, absorbed the fluid by means of absorbent wool, then placed him into a bath of warm rain-water, and thoroughly washed all the spots. I allowed him to remain five minutes in the bath, keeping the water at an even temperature. He was then taken out and carefully dried by means of soft linen, and to each spot I applied boric ointment, the infant being wrapped in soft linen and a warm blanket being placed around him. After this I found that he was much more comfortable; he took the breast quite freely and slept for two hours. This treatment I had carried out each night and morning and gave him internally minim doses of liquor arsenicalis.

As I knew both father and mother and their six children very well, and all were perfectly healthy, I was puzzled to account for the outbreak, especially as most authorities are of the opinion that syphilis is the cause. I made every inquiry but failed to elicit one fact which could point to there being any history of syphilis in either the mother or father or grandparents. All the children were strong and healthy and showed no signs of any syphilitic taint. There had been no miscarriages and all labours had been good. None of the children had ever had the slightest rash or spots after birth.

After three days of the treatment described above there was very marked improvement. The temperature was normal, the functions were working well, all the spots were healing, and inflammation was disappearing. No fresh eruption had taken place; the infant taking his food well and being quite free from pain and irritation, I changed the boric ointment for zinc ointment made with benzoated lard. All went on quite satisfactorily; some of the spots had healed and others were gradually closing and getting smaller until the ninth day, when the whole of the outer cuticle began to peel off like a glove, leaving the cutis vera red and weeping with the papillæ prominent. It began on the forehead, hands, and feet, no part of the body escaping. Naturally when this commenced it made the infant very cross and irritable, but otherwise did not seem to affect him. I still continued the baths, only instead of the ointment I used the following powder: oxide of zinc, finely powdered starch, and a small quantity of camphor. This powder was freely applied all over the body after each bath and had a wonderful effect in soothing and allaying the irritation and discharge. The skin slowly peeled off and it was quite three weeks before it had finished, leaving the new skin perfectly whole and free from any blemish. The internal treatment was continued for three weeks.

Seven weeks after the first appearance of the first spot the infant was quite well and perfectly free from any spot or blemish and had increased in weight and size. The mother nursed him all through, having a good and rich supply of milk. Six months afterwards I vaccinated him with calf lymph which took splendidly and healed up without causing the slightest return of any trouble.

Most authorities on skin diseases give the cause of this complaint in infants as due to syphilis. Dr. Radcliffe Crocker states that he considers that pemphigus neonatorum may arise independently, and in this case I agree with him, and do not hesitate to say that it was not due to syphilis but had arisen *per se*. It was not due to dirt, as a trained nurse had charge of the infant from birth. I have seen pemphigus in infants of undoubted syphilitic origin, but never so severe an attack which was so quickly amenable to treatment and which I fully expected to terminate

fatally as the prognosis in these cases is always grave. I think the quick evacuation of the fluid in the bullæ and the antiseptic treatment applied locally and continued afterwards were the means of cutting short the attack and so saved the life of the infant. What I could not understand and had never seen before was the very complete exfoliation of the outer cuticle over the entire body, which on healing again left the skin perfectly clean and free from any blemish. This case was seen by a brother practitioner, who at once diagnosed it as pemphigus and gave his opinion that it must be due to syphilis and would probably end fatally. This, I am glad to say, was not the case and the infant up to the present time is perfectly well and has never had the slightest return of any rash or symptom, neither does he show any of the characteristics of inherited syphilis.

Cheyne-gardens, S.W.

A FEW CASES OF ETHYL CHLORIDE NARCOSIS.

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ETHYL chloride, according to Kappeler, was first tried as an anæsthetic for surgical operations by Heyfelder. Recently Lotheissen of Innsbruck introduced it for general use in minor, or comparatively minor, surgery with great success. Ludwig and Wiesner and others quickly followed suit, and now some thousands of cases have been recorded. Occasionally it has been administered for 30, and once for 55, minutes for operations like colotomy and amputation, and in many of the shorter gynæcological interventions.

Ethyl chloride is said to have many advantages and few disadvantages. Anæsthesia is quickly (in about two minutes) induced and as rapidly passes off, leaving no, or slight, after-effects, has no irritating action, and can be administered in heart, lung, or kidney diseases where ether and chloroform are contra-indicated or dangerous. Its main disadvantage is that, except perhaps in children, muscular relaxation is generally not complete and rigidity may be marked in muscular, and especially in alcoholic, subjects.

The best mask to administer from is that of Breuer, to be obtained in Vienna, a close-fitting one with inspiratory and expiratory valves and a chamber above the former to hold the gauze on which the drug is to be sprayed. Large graduated flasks containing 50 cubic centimetres and a freer spraying capacity than usual should be used, so that the usual dose of from five to six cubic centimetres can be quickly poured out. The whole apparatus is very portable and convenient. Before I tried ethyl chloride on others I asked Mr. Charles St. Johnston, M.R.C.S., to administer it to me experimentally in a dental chair, and I can say that the subjective effects were like those of nitrous oxide in every respect and not at all unpleasant. Lotheissen has collected 2500 cases with one death, that of an extremely bad subject. Complications during the induction or continuance of anæsthesia appear to be rare, chiefly, so far as I can read, of an asphyxial kind and dependent on some mechanical factor.

Ethyl chloride would seem to be increasingly used in Germany and France, like ethyl bromide, in operations for which nitrous oxide alone, or mixed with oxygen, would be, if possible, administered in England.

The following are short notes of my first 10 cases, the first two on Jan. 15th of this year.

1.—A woman, aged 40 years; extraction of three teeth. Anæsthesia was induced in two and a half minutes and lasted about one minute, passing off quietly. The colour was heightened throughout. The inhaler was removed before the conjunctival reflex was abolished; there was very slight phonation towards the end, but there were perfect anæsthesia and recovery.

2.—A woman, aged 21 years; extraction of three teeth. The course was much the same as in the last patient, the pulse being good and regular during the operation; there was no excitement or muscular spasm. The patient seemed to be in an analgetic condition.

3.—A woman, aged 24 years. It took three minutes to get her apparently under—i.e., just stopping short of abolition of conjunctival reflex—but recovery was so rapid (a quarter of a minute) that no extraction could be performed. N_2O was therefore administered and two teeth were removed.

4.—A strongly-built woman, aged 20 years; tooth extraction. After three minutes' inhalation with little apparent effect, I changed to N_2O to complete the operation.

In the above cases I was proceeding very carefully because the exhibition of the drug was new to me and in Cases 3 and 4 too little was administered. Again, I was not using a graduated flask and so did not know how much ethyl chloride was sprayed on.

5.—A man, aged 26 years; a difficult extraction. He was the ordinary type of patient. There was good anæsthesia from 20 to 35 seconds. There was no excitement; the colour and respiration were good. Administration was stopped when the conjunctival reflex became much dulled.

6.—A woman, aged 23 years; extraction of two teeth. She was under (the reflex was not gone) in about two minutes. 30 seconds of quiet anæsthesia were obtained; about five cubic centimetres were used. The patient felt a little giddy for a short time afterwards.

7.—A woman, aged 18 years; extraction of six teeth. The patient was very nervous, thin, and had a high arched palate. She felt sick and retched during the taking of an impression of the mouth before operation. There was quiet induction in two minutes; the reflex was just lost, the eyes were turned in, and the pupils were well contracted; the colour was good; the respirations were slow and regular. Perfect anæsthesia for more than one minute was obtained. The recovery was very gradual and quiet; two or three more teeth could have been extracted. She then retched much and vomited a little for a few minutes. She afterwards said that she felt well and much better than after N_2O on two previous occasions.

The usual dental sitting-up posture was kept in all these cases.

8.—A girl, aged eight years; tonsils and adenoids. The administration was slow. Anæsthesia lasted for 25 seconds. Reapplied for tonsils; anæsthesia lasted for 20 seconds. Recovery was as perfect and rapid as from N_2O. There was no change of colour throughout.

9.—A boy, aged 12 years; tonsils and adenoids. The course was the same as in the last case, only the anæsthesia was much shorter.

10.—A spare woman, aged 32 years; scraping, &c., granulations of both ears. From five to six cubic centimetres were sprayed on the inhaler. There was quiet induction in three minutes; the conjunctival reflex was just lost. There was perfect anæsthesia with slight muscular rigidity throughout which did not inconvenience the operator. The colour, pulse, and respiration were very good. Reflex was present most of the time corresponding to moderately contracted pupil. The reflex was twice abolished when the pupil became well contracted and breathing became a little slower. Complete recovery occurred in about one and a half minutes. Operative anæsthesia lasted for five minutes. The patient vomited a little bile-stained fluid shortly after being put to bed. She then felt well, but five hours later she complained of feeling faint for a short time. She was quite well the next day. This was a most successful case in every way.

I used Breuer's mask for all these patients and found it very convenient to manipulate. At no time had I anxiety, nor did I see any change for the worse either in respiration or circulation. I have several times used ethyl chloride instead of nitrous oxide as a preliminary to etherisation and with the same successful effect. The few cases which I have briefly and imperfectly recorded have been so successful that I shall lose no suitable opportunity of testing the drug in carefully selected patients for longer and more difficult operations.

Birmingham.

A FURTHER NOTE ON THE PRODUCTION OF LOCAL ANÆSTHESIA IN THE EAR, NOSE, AND THROAT.

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AURAL SURGEON TO THE GLASGOW CENTRAL DISPENSARY.

IN THE LANCET of April 21st, 1900, p. 1125, I described a method by means of which the difficulty of obtaining local anæsthesia in the ear could be overcome. It consisted essentially in using a solution of cocaine in aniline oil and rectified spirit. I further mentioned the limits within which

that method was applicable. As the method has been widely adopted both in this country and abroad I propose to describe some little improvements I have been able to make which allow the limits of its application to be considerably widened. Several correspondents wrote to me asking "what is anilin oil?" as they had not been able to obtain it at the druggists, nor could they find the name in works on chemistry. In reply to these inquirers I have only to say that anilin oil is the same as anilin. It is the French *huile d'anilin* and the German anilinöl. It is, of course, not an oil at all, but is frequently termed such because of its oily consistence. When fresh it is almost colourless, but it turns yellow or brown with time. It should be kept in a glass-stoppered bottle and in a dark place.

In the paper referred to I described the method I then employed, using simply a 10 per cent. solution of cocaine hydrochlorate in a mixture of equal parts of anilin oil and rectified spirit. For ear work this proved highly satisfactory, but for operations involving deeper parts, such as excision of tonsils, the removal of bony spurs from the nasal septum, &c., although much better than the simple aqueous solutions of cocaine it still did not completely annul the pain and, moreover, caused a burning sensation. The most obvious way to accomplish this end was to make the solution stronger, and this was what I did. To avoid the dangers of using strong solutions of cocaine, I mixed β-eucaine[1] with the cocaine in the following way. Two solutions were made: (1) a 20 per cent. solution of cocaine hydrochlorate in rectified spirit; and (2) a 15 to 20 per cent. solution of eucaine in anilin oil. The latter is not a true solution, however, as eucaine is only soluble to about the extent of 10 per cent. in anilin oil; a proportion of the eucaine, therefore, lies at the bottom of the bottle. Before use the bottle containing solution No. 2 is well shaken up and 10 minims (measured) are poured out; to this are added 10 minims of No. 1 solution and the mixture becomes clear in a few seconds. This gives the following formula: cocaine hydrochlorate 10 parts, β-eucaine 10 parts, anilin 50 parts, and rectified spirit 50 parts. Of course this solution may be kept in stock, but it turns brown very soon and appears to a slight extent to lose its highly penetrating quality. I therefore keep the solutions separate until just before use, though perhaps the precaution is unnecessary. With this solution I have been able to dispense with all aqueous solutions of cocaine in ear and throat work.

The method of use is different according to the region in which the anæsthesia is desired. In the ear the method I formerly employed was to pour the solution into the meatus while the head was turned to one side. I frequently employ this method still, but another equally efficacious way was suggested to me by Dr. Arthur Hutchison—viz., to soak a small strip of gauze with the solution and to push it down the meatus through the speculum to the required depth. This method certainly diminishes the amount of cocaine and anilin oil absorbed.

In my previous communication I stated that the method was not suitable for throat and nose work on account of the burning pain which it temporarily caused. Further experience has led me to change my opinion in this respect, as I find that the disagreeableness of the burning sensation is fully compensated for by the much deeper anæsthesia obtained and the freedom from symptoms of cocaine intoxication. The method which I employ in throat and nose work is as follows. 10 minims (measured) of the eucaine-anilin solution are poured out and 10 minims of the cocaine-spirit solution are mixed with them. The mixture, at first opaque, becomes clear and consists of a 10 per cent. solution of cocaine and 10 per cent. of eucaine. Under no circumstances do I use more than 20 minims of this solution—that is to say, 10 minims of anilin. That amount is quite sufficient for the painless excision of tonsils, removal of spurs on the septum, cauterising, and other operations. In applying the solution the anæsthetic effect appears to be considerably enhanced if it be rubbed gently over the part for a few seconds. This is done by saturating a small pledget of cotton-wool at the end of a probe with a few minims of the solution and rubbing it in. A period of at least seven minutes should then be allowed to elapse, at the end of which the anæsthesia will be found to be complete; much more so than that obtained by much larger quantities or stronger aqueous solutions of the anæsthetics. It should be added that if, after producing anæsthesia, chromic acid be used as an escharotic, the scab will be dark green in colour owing to the formation of an anilin dye. This produces no deleterious effect in the system and does not diminish the efficacy of the caustic.

In regard to the physiological effects of this method a few words are required. I have not had any trouble myself with symptoms of intoxication, either by the anilin or by the cocaine. I have, however, heard of two cases in which a little trouble resulted. Of one of these I am unable to give details as it was reported to me by a third person. It was a case evidently of cocaine intoxication and the patient recovered in the course of an hour or two. The second case occurred in a patient, aged six years. The solution was instilled into the meatus until the latter was full. In the course of an hour or so the patient's lips became blue and slight gastric catarrh occurred, but no other symptoms were present and the patient was well again in a few hours. As a matter of fact, beyond the peculiar blue colour of the lips there was nothing alarming to note. Excepting these cases, neither of which occurred in my own practice, I have not seen or heard of any trouble with the solution. On the other hand, I never have now any of those symptoms of cocaine intoxication with which rhinologists are so familiar when the *aqueous* solution is applied to the nasal mucous membrane, and which, though not usually alarming, are yet sufficient to prevent the carrying out of minor operations, much to the chagrin of the surgeon and the patient. Using the solutions in the manner described above excludes these extremely disagreeable symptoms.

A few words may be said in regard to the peculiar blue colour of the lips which sometimes occurs. Several of my patients have told me that an hour or two after the use of the solution their friends noticed this peculiar colour. No symptoms were present in any of the cases and the patients would not have known about it had their attention not been drawn to it by their friends. It always passes off in the course of a few hours and leaves no effects. Professor Stockman informs me that this is due to the transformation of oxyhæmoglobin into methæmoglobin. Its occurrence may be avoided if so desired by limiting the dose to 20 minims for adults or adolescents and corresponding doses for children. As regards children it must be remembered that they are said to stand cocaine badly. For my own part I have not seen any objectionable symptoms in children, but then I have always been careful about using cocaine in any form in these patients.

Glasgow.

[1] On the Use of Eucaine in Otology and Laryngology see a paper by Yearsley and Horne, Brit. Med. Jour., Jan. 16th, 1897.

TWO CASES ILLUSTRATING THE USE OF THE X RAYS IN SURGERY.

BY G. P. NEWBOLT, F.R.C.S. ENG.,
HONORARY SURGEON TO THE ROYAL SOUTHERN HOSPITAL, LIVERPOOL;
AND
C. THURSTAN HOLLAND, M.R.C.S. ENG., L.R.C.P. LOND.,
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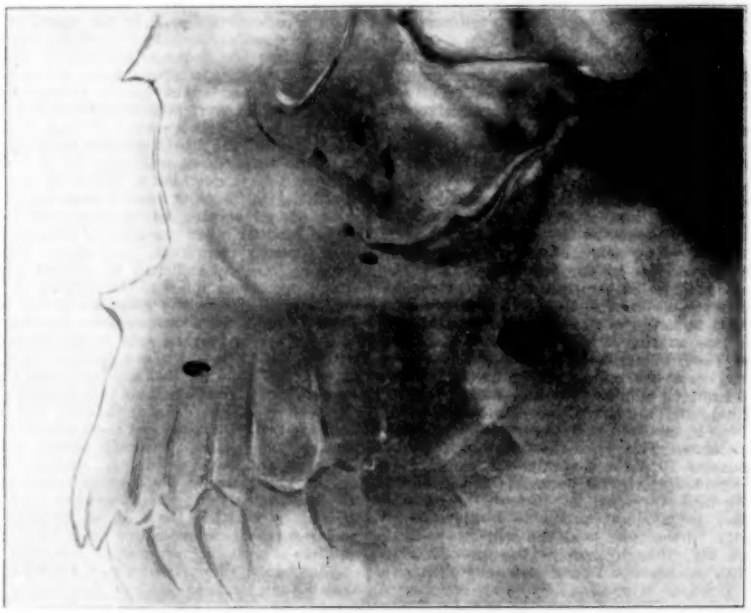
CASE 1.—The patient was a boy, aged 18 years, who was shot in the face. On August 28th whilst lying down another boy pointed a revolver into his face and it accidentally went off. The left eye being injured he was taken to the Liverpool Eye and Ear Infirmary where the eye was removed on the following day by the honorary surgeon, Mr. C. G. Lee. The bullet was not found in the eye, and on August 30th an x-ray examination was made by Mr. Holland. The boy lying down on his left side, two wires were fixed at right angles to one another across the left side of the face, and the skiagram shown in Fig. 1 was obtained. The apparatus used was a 10-inch coil worked with accumulators and the exposure was 90 seconds. The wound of entrance was at the left side of the bridge of the nose, just internal to the angle of the eyelids. The bullet had passed through the left eye and across the superior maxilla, leaving small pieces of lead in different parts on its way along. The spot under which the bullet lay was, from the x-ray examination, given as follows: draw a line straight forward from the lower margin of the lobe of the left ear and measure one inch from

the lobe along this line. From the sharpness and size of the shadow it was estimated that the depth would not be more than about an inch beneath the skin.

On Sept. 4th Mr. Newbolt made a small incision in the cheek with this spot as its centre. Dissecting straight down through subcutaneous tissue and through the masseter the bullet was found beneath this muscle, at about the depth from the skin of one inch. No difficulty occurred except that it was very firmly embedded and was not easy to dislodge. The wound healed by first intention and the boy made an uninterrupted recovery.

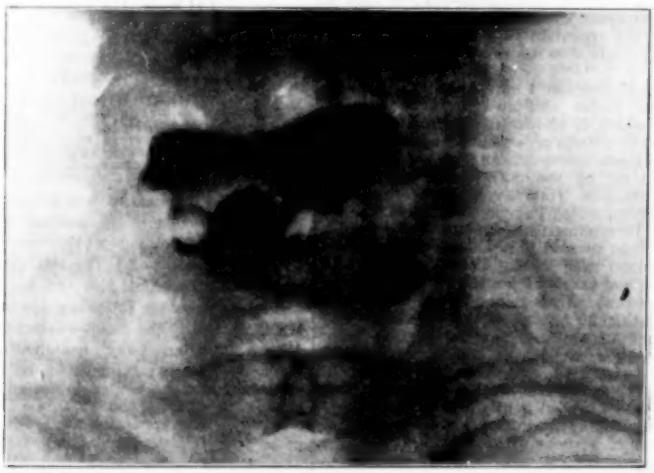
CASE 2.—On July 27th Mr. Holland was sent for to see a boy, aged 16 years, who had when cleaning a window fallen backwards into an area and been badly hurt. When seen some hours after the accident, the cut, &c., having already been attended to, he was complaining of some difficulty in swallowing. As he was still in a very dazed condition it was difficult to get any reliable statement from him, but it was noticed by his friends that a front upper false tooth on a small vulcanite plate with two hooks was missing from the mouth. This could not be found anywhere, so it was decided to examine the boy with the x rays. On looking at him with the screen a foreign body resembling a tooth-plate could be easily seen fixed behind the larynx and it moved up and down

FIG. 1.



Reproduction of skiagram by Mr. C. Thurstan Holland. Shows bullet and scattered fragments in the face for two days.

FIG. 2.



Reproduction of skiagram by Mr. C. Thurstan Holland. Shows vulcanite plate, with one tooth and hooks, in the œsophagus for six hours.

during efforts at swallowing. The skiagram (Fig. 2) was taken with the same apparatus as in the preceding case and with an exposure of 60 seconds. The boy was then transferred to the Southern Hospital and there under an anæsthetic Mr. Newbolt could just reach the top of the foreign body through the mouth with his finger. Without any difficulty he then managed to catch hold of it with a pair of strong forceps and to remove it. The boy made an uninterrupted recovery.

Liverpool.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF MENINGO-MYELOCELE.

BY JAMES BURNET, M.A., M.B., CH.B. EDIN.

ON Jan. 29th, 1901, at 11.45 P.M., I was called to attend a woman in labour. It was her third pregnancy. She had had twins, who died from "decline" six months after birth. Her next child, born four years ago, is alive and healthy. About 18 months ago she had an abortion at the third month and was ill for a long time afterwards. In May of last year I saw her and treated her for constipation and anæmia, with the result that she improved considerably in health. About the end of December she sent for me, as she began to complain of a severe pain in the suprapubic region and over the right iliac fossa. She looked then very much run down. I prescribed for her, but she was unable to leave her bed much until labour set in on Jan. 29th. The presentation was a vertex one. There was some delay in the birth of the head, which was larger than the average. When born the child—a female—was asphyxiated, and gave evidence of convulsive twitchings in both arms and legs. Artificial respiration was performed, and the child soon revived and cried in a feeble manner. On examination I found a tumour situated in the lumbar region. It measured fully three and a half inches in length and two inches in breadth. It was sessile, and presented a well-marked central cicatrix. There was talipes of both feet, with some rigidity of the knee joints. The knee reflexes appeared to be absent. The surface of the tumour was only partially covered by skin. The sac wall was very thin. The tumour was carefully dressed and protected from external pressure. In spite of our efforts, however, rupture was evident on the third day and the child died quietly on the morning of the seventh day, having previously refused the breast. Two days prior to death I observed considerable mottling of the face and trunk, with depression of the fontanelle. Examination of the heart was entirely negative. No post-mortem examination was obtained, which I greatly regret.

The mother is a very neurotic woman, constipated and anæmic, always taking a very despondent view of life. No doubt these facts help to explain this early failure of development. I may add that the placenta and cord were perfectly normal.

Edinburgh.

A CASE OF IRREDUCIBLE DORSAL DISLOCATION OF THE PROXIMAL PHALANX OF THE INDEX FINGER.

BY C. F. M. ALTHORP, M.B. LOND.,
SURGEON TO THE BRADFORD ROYAL INFIRMARY.

ON July 6th, 1900, a youth, aged 16 years, whilst at work in a warehouse in Bradford, fell off a ladder, alighting on the right hand and dislocating the proximal phalanx of the index finger. When seen at the infirmary soon after the accident the right index finger presented the following appearance. The base of the proximal phalanx formed a prominence on the dorsum of the hand, the head of the metacarpal bone projected into the palm, and the finger was shortened and there was limitation in movement. Attempts at reduction by manipulation were made by several of my colleagues as well as by myself, but without success. Gas, followed by ether was given and after the skin had been thoroughly cleansed an incision, an inch in length, was made over the radial side of the joint. The soft structures were drawn apart and the joint was freely exposed. A strong fibrous band, the glenoid ligament, was seen stretched over the head of the metacarpal bone, preventing reduction of the dislocation. The ligament was partly divided with the knife, and then with a blunt elevator I levered the stretched band over the articular end of the metacarpal bone. At once the dislocation was reduced. The wound was closed, without drainage, and when dressed a few days afterwards was found to be healed. Massage and passive movements were employed, the stiffness gradually disappearing.

In December, 1900, six months after the operation, the patient was shown to the members of the Bradford Medico-Chirurgical Society. There were some thickening around the joint and slight limitation in extreme flexion. He had perfect use of the finger and could write as well as before the accident.

The case is of interest as illustrating the fact that in these dislocations (not only of the thumb but also of the fingers) it is the glenoid ligament which is the mechanical obstacle to reduction. By freely exposing the joint I was able to see the glenoid ligament stretched over the head of the metacarpal bone.

Bradford.

DIABETES MELLITUS IN A CHILD, WITH COMA.

BY J. G. MCNAUGHTON, M.D., M.R.C.P. EDIN.

THE fact that diabetes mellitus in children, with rapid coma, is comparatively rare may make this case worthy of record.

I was called to see a girl, aged five years, on Jan. 21st, 1901, and obtained the following history. Wasting had been observed for only four weeks, and three weeks previously the mother had observed that the child was drinking large quantities of water. She would send her older sister for "drinks" during the night. At the same time she was passing more urine than usual. She complained of nothing else and played about as usual. No increase of appetite was observed. Three weeks before both ears discharged for one day, but there had been no discharge since. On examination on Jan. 21st the pulse was 116 and small; the temperature was 97·6° F. She was restless and difficult to rouse when spoken to. The skin was dry. The pupils were equal and there had been no twitching. She complained of no pain. The urine was straw-coloured and frothy, and on being tested it was found to contain sugar and albumin. The lungs and heart were normal.

On Jan. 22nd I was summoned at 7 A.M. The patient had vomited several times during the night. During the 24 hours she had passed over 20 ounces of urine. She was in great distress and complained of pain above the umbilicus. There was great dyspnœa, the respirations being 38 per minute. The lips, face generally, and limbs, especially the feet, were cyanosed; one tenth of a grain of codeia every three hours gave her some relief. The urine passed contained 6 per cent. of sugar and 3 per cent. of albumin. The patient was seen at 4 P.M.; there were even greater dyspnœa and cyanosis, and she was gradually passing into a comatose state. The coma gradually deepened and she died at 3 A.M. on the next day.

The progress of the case was apparently very rapid, no urgent mischief being suspected till two days before death. The parents are intelligent people and careful of their children. The family history was not good. The mother has had five children and the eldest, an imbecile, died when about nine years of age. An aunt of the mother died from diabetes, and a sister of the father died from the same disease when over 50 years of age.

No examination of the body was allowed. It is possible that there may have been some change in the base of the brain, but one could get no history of irritation of cranial nerves, the only fact elicited being the discharge from the ears.

On Feb. 21st the mother of the child sickened with influenza. When seen for the first time on the 22nd the temperature was 100·4° and the pulse was 96. On the same evening she became acutely maniacal and she died 36 hours later in the same state. This note may be of interest, taken in connexion with Dr. Howship Dickinson's Baillie lecture in THE LANCET of Feb. 2nd, p. 299.

Turriff, N.B.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. GEORGE'S HOSPITAL.

GLYCOSURIA DUE TO MORPHIA COMPLICATING A CASE OF FRACTURE OF THE PATELLA.

(Under the care of Mr. A. MARMADUKE SHEILD.)

THE importance of the fact that in some cases glycosuria appears as a result of the administration of morphia can hardly be over-estimated in connexion with the fact that morphia and the closely allied alkaloid codeia are prescribed more frequently perhaps for diabetes than is any other drug. The cases, however, in which this idiosyncrasy is observed are extremely few in number. In the case recorded below, although it was not definitely proved that the sugar was due to the morphia, yet it is very probable. For the notes of this case we are indebted to Mr. Charles R. Keyser, surgical registrar.

A man, aged 55 years, was admitted into St. George's Hospital on Nov. 3rd, 1900, under the care of Mr. Sheild. The history was as follows. Whilst waiting to catch a train the patient slipped and fell and on attempting to walk found that he was unable to do so. On admission to the hospital he was found to be suffering from a transverse fracture of the patella. The two fragments were separated about three-quarters of an inch and the knee-joint was much distended with blood. The upper fragment was a good deal larger than the lower. There was no head injury. Beyond the fact that he suffered from a chronic cough he was apparently in good health. The urine was normal.

On Nov. 5th Mr. Sheild opened the knee-joint by a median vertical incision and after thoroughly washing out the blood and clots brought the broken fragments into apposition by means of two wire sutures placed parallel to each other in the long axis of the bone. Two wires were used as the lower fragment was split longitudinally. The joint was again thoroughly flushed out, the skin wound was closed with sutures, and the limb was immobilised by means of a back splint and two side splints. A few days later the urine was again examined and a large amount of sugar was present. The patient had no other symptom of diabetes and it was only after some difficulty that any cause for the glycosuria was found. Finally, it was discovered that he had been taking morphia for upwards of 20 years to allay his cough. As there has been some doubt as to whether the sugar present in these cases is really sugar and not glycuronic acid Dr. G. A. Buckmaster, lecturer on physiology to St. George's Hospital, kindly examined the urine and gave the following report: "Total amount of urine for 24 hours = 1436 cubic centimetres. Deep orange colour which is due to pathological urobilin. Reaction neutral. Specific gravity 1035. It contains no sediment or smell. Froths readily. Contains sugar in quantity as determined by fermentation, but no glycuronic acid, acetone, oxybutyric or aceto-acetic acid. Total amount of urea = 31 grammes." This definitely showed therefore that the urine was not that of diabetes.

The wound in the knee healed quite satisfactorily, but for the first fortnight after the operation the mental condition of the patient was strange. He frequently tried to take off his splints and get out of bed, and whilst doing this he seemed quite dazed, and when told about it afterwards apparently had no knowledge of what he had been doing. He slept very badly and drugs such as trional and chloral were administered as required. The amount of sugar in the urine steadily decreased in amount and on Nov. 30th only a trace could be found, although urobilin was still present. On Dec. 4th, however, no sugar could be found in the urine. The knee was massaged and moved gently every day from Nov. 24th and by Dec. 2nd the patient was walking about the ward. On Dec. 12th, although he could walk quite well and could flex the knee nearly to a right angle, there was practically no union whatever between the fragments of the patella, the bone being entirely held in position by the wires. He was discharged from the hospital with strict injunctions to present himself frequently so that his condition might be observed. Unfortunately, he has never returned to the hospital, so that it has not been possible to determine whether the sugar is again present in the urine now that he has access to morphia, of which, presumably, he will avail himself to allay his cough which certainly was rather troublesome during his stay in the hospital.

Remarks by Mr. KEYSER.—The only references I have been able to find on this subject of glycosuria due to morphia are the following. In Allbutt's "System of Medicine," vol. iv., page 309, he says: "Glycosuria occurs after the administration of various drugs and poisons, more especially of morphia, chloral, opium, chloroform, and carbonic oxide. It is probable that the reducing substance in the urine is not dextrose but a compound of glycuronic acid." In Taylor's "Practice of Medicine," fifth edition, p. 851, it is stated that "the supposed occurrence of glycosuria after the administration of morphine, curare, and chloroform vapour is due to glycuronic acid." However, Mitchell Bruce in his "Materia Medica" says: "Morphine may produce sugar in the urine." In relation to these statements it is, therefore, interesting to know that it is possible for sugar as well as glycuronic acid to be produced by morphia, especially as the drug is constantly administered to diminish the amount of sugar in the urine in diabetes. The fact that sugar was only present after the operation may, I think, be explained in the following way. In the patient's ordinary condition of health his tissues were capable of disposing of the sugar-forming substances present as a result of morphia, but when the extra call on them was made they were unable to meet the double demand, and in consequence the fracture did not unite, although the skin wound healed by first intention, and sugar appeared in the urine. For permission to record the case I am indebted to Mr. Sheild.

ADDENBROOKE'S HOSPITAL, CAMBRIDGE.

THREE CASES ILLUSTRATING THE OPEN-AIR TREATMENT OF PERNICIOUS AND OTHER FORMS OF TOXIC ANÆMIA.

(Under the care of Dr. LAURENCE HUMPHRY.)

IT is now generally recognised that one of the most important factors in the etiology of various obscure morbid conditions of the blood is the presence in the circulation of toxins. These toxins may be absorbed from the alimentary canal or they may be taken up from some septic focus, such as an abscess, or they may even be formed by organisms present in the blood itself. Our chemical knowledge at present is hardly sufficient to enable us to identify in the blood the special toxin in any particular case, but we may reasonably look forward to this in the future. The value of dwelling in the open air in such conditions as these is well illustrated by the three cases Dr. Humphry has reported below. In the elaborate discussion at the Royal Medical and Chirurgical Society in 1899[1] on the open-air treatment of tuberculosis it was recognised by several speakers that the beneficial effect was not confined to the lungs, but was recognisable in tubercle occurring in other parts of the body. The improvement is probably to be attributed in great part to the increase in the appetite and in the capacity for sleep, which gives rise to a general increased power of resistance to morbid germs and their products.

CASE 1. *Pernicious anæmia with postero-lateral spinal sclerosis.*—A man, aged 53 years, married, was admitted into Addenbrooke's Hospital, Cambridge, on March 3rd, 1900. Early in 1899 he began to feel ill with loss of appetite, drowsiness, and weakness; he kept at work until about the end of the year when his gait began to be unsteady. In January, with increasing weakness, noises in the head, and difficulty in walking, he gave up work and attended at the hospital as an out-patient, but derived little benefit. On admission he appeared to be very ill; he had lost flesh and

[1] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxiii.

was very anæmic, with a pale lemon tinge of the skin. The pulse was feeble and soft and the artery was slightly thickened; the heart sounds were feeble and muffled. Examination of the blood showed that the red cells were much altered in shape, numbering 1,685,000 per cubic millimetre; the white cells numbered 12,000 and the hæmoglobin amounted to 35 per cent. The urine was normal and of pale colour. The temperature oscillated between subnormal and slightly febrile. The patient's gait was ataxic; there was no absolute loss of power but great general weakness. Sensation was rather dull in the legs, with numbness and "pins-and-needles" in the fingers and toes. The knee-jerks were slightly exaggerated; there was no clonus; there was extensor response to plantar reflex. There was no loss of control over the sphincters. The pupil of the right eye reacted, the sight was good, and the fundus was normal; the sight of the left eye had been lost through accident. The digestion was fairly good. The teeth were ill-kept and the gums were swollen. The bowels were constipated. The abdominal viscera were not enlarged.

The patient was treated with rest in bed in the ward, a liberal diet, and small doses of strychnine. He improved slightly in strength, but after several weeks in spite of the administration of arsenic and iron his condition got worse, the anæmia increased, and the count of the red cells on April 6th was 1,200,000 per cubic millimetre, the hæmoglobin amounted to 25 per cent., and there were several nucleated red cells; the megalocytes and microcytes were about equal in number and formed about half the number of the red cells. In April he was given red marrow (five grains three times a day) and during the month the arsenic was increased to 10 minims of Fowler's solution three times a day. There was a slight increase in the number of red cells on April 26th, but early in May he got much worse and looked as if he was going to die, and his wife decided to take him home. It was obvious that during his stay in the ward he had steadily got worse and was much weaker, in spite of good nourishment, port wine, arsenic, and bone marrow. His wife was advised as they lived in the country and had a garden to let him remain out all day in the open air, and the drugs were continued in smaller doses, and good nourishment was to be given. By July he had greatly improved and his wife reported that since living in the open air his complexion had improved, he was gaining strength and appetite, the breathlessness on movement was less, and she thought that he would be soon able to travel in his bath-chair to the hospital. On August 14th he was brought up in a chair looking a great deal better, especially in colour; although still anæmic his skin looked healthier. The blood count was—red cells 2,320,000 per cubic millimetre and white cells 7000. Several films were stained but no nucleated red cells were found. The red corpuscles were of much better shape and size than in the previous counts. There was no obvious change in the nervous symptoms but muscular power was greatly improved. In November last, in reply to a letter, his wife said that he was not quite so well as he had been in the summer, but the weather had been bad and he had not been able to sit out.

CASE 2. *Toxic anæmia due to post-typhoid septicæmia.*—A young man, aged 20 years, single, was transferred to Dr. Humphry's care in the summer months suffering from profound anæmia after a very severe attack of typhoid fever with numerous complications followed by septicæmia. He appeared to be in the weakest possible state and he was wasted almost to a skeleton; his temperature was still febrile and oscillating and there were the remains of a sinus of a parotid abscess, but there was little discharge and there was nothing obvious elsewhere. The blood count on July 16th showed that the red cells numbered 2,842,700 per cubic millimetre and the white cells 20,000, and there was a large increase in the polymorphonuclear neutrophiles.

The patient lay in a lethargic state, half or quite asleep, with his eyelids half open. He could not turn himself in bed and looked a most piteous object. The septicæmia was evidently still going on, as shown by his temperature. On August 8th, as he was getting worse, he was given 10 cubic centimetres of antistreptococcic serum, having four doses in the course of a few days. This was followed by no apparent benefit, and at the end of the month he was drowsy, exhausted, and apparently dying. On Sept. 1st he was moved on to the balcony for night and day and the change in a few days was remarkable. His appetite soon became enormous. On the 10th he weighed 5 st. 5 lb. and on the 24th 6 st. 4 lb.—a gain of about a stone. On Oct. 3rd the red blood cells were found to number 4,368,000 per cubic millimetre. (N.B.—This patient had subsequently a severe relapse of his septicæmic state and died with pyæmic abscesses in his joints.)

CASE 3. *Hæmolytic anæmia, probably pernicious.*—A widow, aged 60 years, attended at the hospital as an out-patient in May, 1900. She had been failing in health and strength for nearly a year and was getting paler and breathless on exertion; she also occasionally had fainting attacks and vomiting. She was very pale, with a uniform lemon tinge of the skin and conjunctiva; there was plenty of subcutaneous fat; the mucous membrane was very anæmic. The heart sounds were feeble at the apex and base. There were no teeth in the lower jaw, but there were a few sound teeth in the upper jaw. The blood was of specific gravity 1036, the hæmoglobin was 34 per cent., the red cells numbered 792,000 per cubic millimetre, and the white cells 2900, and the colour index was 2·15. Poikilocytosis was well marked, three nucleated red cells being present in the film; there were more megalocytes than microcytes.

The patient was treated with arsenic and iron; she improved slightly and left off attending at the hospital. She got much worse in August and entered the hospital as an in-patient on Sept. 5th. She complained of great weakness, breathlessness, and indigestion. Her temperature oscillated between 96° and 100° F. and the pulse was soft, feeble, and regular. The urine was pale and scanty, but normal. On the 6th there was poikilocytosis; the red cells numbered 1,440,000 per cubic millimetre, and the white cells 2444. There was no hæmorrhage of the discs; the viscera were not enlarged. She was placed in bed in the ward and was given half an ounce of the glycerine extract of bone marrow twice a day and "admission diet." On the 14th she was much the same, the red cells being rather less (1,232,000 per cubic millimetre). She was placed on the balcony on the 13th, but at first she was losing weight and had several attacks of sickness and faintness and then, owing to work to be done to the roof of the balcony, she had to return to the ward. She was placed on arsenic again on the 24th, taking four minims three times a day. She complained that she had had to leave the balcony, as she slept better out of doors. She was put back on the balcony for night and day on Oct. 8th; she then weighed 8 st. 5 lb. On Sept. 29th the red cells were 1,480,000 per cubic millimetre. From Oct. 8th onwards her improvement was steady and well maintained, she slept well, and the appetite improved. On the 21st she weighed 8 st. 7¼ lb., having gained 2¼ lb. Her colour was less sallow and yellow and some fresh colour began to appear in her cheeks and lips. On the 28th she weighed 8 st. 10 lb., a total gain of 5 lb. On the 20th, the red cells numbered 3,600,000 per cubic millimetre and the white cells 4000; the hæmoglobin amounted to 70 per cent.; the red cells were of better shape and size. On Nov. 6th she was discharged from the hospital. She then weighed 9 st., a total gain of 9 lb.; she was looking well, with plenty of colour, the lemon tinge quite gone, and she expressed herself as quite well again after nearly two years' illness.

Remarks by Dr. HUMPHRY.—In the treatment of pulmonary consumption the fact has often been observed that amongst the numerous benefits derived from life in the open air there is a very decided increase in the number of the red cells of the blood. This fact should not be lost sight of and suggests a very material aid in the treatment of those severe forms of anæmia in which a great diminution in the number of red cells is a marked feature. The balconies at Addenbrooke's Hospital having been recently fitted up to accommodate patients the opportunity has been afforded of giving this mode of treatment a full trial; at the same time, owing to the work of preparing the walls, floor, &c., it was necessary from time to time to send the patients back into the wards, and in this way clinical experiments were made which were of some value.

The first case was admitted to the hospital before the balcony was ready for use, but the benefit which the patient derived from living in the open air after leaving the hospital was so marked that it was decided to give the plan a full trial on the next opportunity. This case was a well-marked example of pernicious anæmia with spinal symptoms. He was for many weeks thoroughly treated with rest in bed, liberal diet, arsenic, and bone

marrow, but he steadily got worse until he lived in the open air. The second case was one of profound toxic anæmia due to post-typhoid septicæmia. The rapid improvement in weight (nearly a stone) and the increase in the number of the red cells (nearly 2,000 000 per cubic millimetre in one month) were remarkable. The third case, again, was probably a toxic form of anæmia or pernicious anæmia. The patient after about five weeks in the open air appeared to be nearly well. The value of rest and good diet and of the administration of arsenic and probably bone marrow is of course well known, and the effect of rest on the blood in health and simple anæmia has been shown in very careful experiments by Dr. G. Oliver in his work on the blood and blood pressure. In the two cases of pernicious anæmia the treatment by rest, diet, and drugs was practically the same when in the wards as in the open air. The second case had no special drug treatment at either time.

The effect of living by day and by night in the open air upon the appetite, sleep, digestion, and, finally, upon the blood was very pronounced, and the rapidity of the improvement was also remarkable. The red cells not only considerably increased in number but in the cases of pernicious anæmia the shape of the cells was noticed to have materially improved. It was also noticed that the patients did better when they slept out than if they came back to the wards at night. The balconies are entirely open and face due west, with only a roof, and during the greater part of the year there were not even blinds to afford protection from the wind, weather, or sun. No ill-effects were noticed from wet, damp, fog, or wind, but occasionally the sun was too powerful. It is no doubt well known that what appear to be cures or improvements in this form of anæmia are often transitory and that relapse is to be expected; nevertheless, it is often not difficult to arrange for living and sleeping in the open air, and, at any rate, it may prove a gain if only in a sense of well-being and comfort, while in more favourable or earlier stages of the disease the severer symptoms may possibly be prevented.

I am indebted to Mr. Strangeways Pigg and to his assistants in the pathological laboratory for the careful blood examinations.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Immunity in Relation to the Pancreatic Ferments.—The Immediate Diagnosis of Rabies.—On a Proteolytic Enzyme in the Spleen.—The Fermentation of Glucose by Sanarelli's Bacillus Icteroides.—The Nature of the Indol-reacting Substance in Diphtheria.—The Identity of Achalme's Bacillus and the Bacillus Enteritidis Sporogenes (Klein).

A MEETING of this society was held on March 5th, at the Jenner Institute of Preventive Medicine, Mr. W. WATSON CHEYNE being in the chair.

Dr. GEORGE DEAN made a communication on Experiments on Immunity in Relation to the Pancreas and its Ferments. After reference to the resemblance between the ferments and the bacterial toxins a brief outline was given of the work previously done in connexion with ferments of animal, vegetable, and bacterial origin and their anti-ferments. Special attention was given to Hildebrandt's researches in connexion with emulsin, and Morgenroth's work in relation to rennin and anti-rennin. The latter formed the starting point of the experiments detailed. Animals were treated with gradually increasing doses of pancreatin with the view of ascertaining whether an increase in the anti-tryptic action of the blood-serum could be obtained. It was demonstrated that such an increase did occur, but that it was low compared with the case of the bacterial antitoxins. The animal body appeared to have the power of regulating the production of trypsin and anti-trypsin, an excess of the one being followed by a hyper-secretion of the other.

Dr. A. MOORE made a communication on the Immediate Diagnosis of Rabies in Animals. Although the establishment of a rapid diagnosis in cases of suspected rabies was a matter of considerable importance in view of the treatment of persons bitten by such animals, yet the methods in vogue at present for arriving at this decision were all open to objection for the following reasons—viz., (1) the living animal was rarely available for observation of the characteristic symptoms; (2) the dead animal often presented macroscopically no really conclusive signs of the malady beyond the evidences in the stomach of its perverted appetite; whilst (3) the classical method of inoculation always involved a delay of at least two or three weeks and was frequently inapplicable owing to putrefaction of the material used for inoculation. The frequently advocated microscopical examination of the medulla oblongata had not been deemed worthy of general adoption. Recently van Gehuchten had drawn attention to a lesion which he considered to be absolutely pathognomonic of rabies. This consisted in a remarkable degeneration of the large conspicuous cells found in the ganglia of the cerebro-spinal nerves. A considerable number of these cells atrophied completely, their place being taken by small round cells and new-formation tissue, whilst those which persisted stained badly and presented a shrunken, wasted appearance, and in most instances a disappearance of their nuclei. These changes were most obvious in the ganglion found on the trunk of the vagus nerve close to its exit from the cranium and required no special mode of preparation to demonstrate them. The lantern slides and specimens exhibited represented sections of these ganglia taken from rabbits inoculated subdurally with the stock virus of the Jenner Institute. Van Gehuchten stated that the appearances described were found in all the rabid animals examined, being best marked in dogs, less pronounced in man, and least evident in rabbits, but highly characteristic in all. They were not found in animals not suffering from rabies.

Dr. S. G. HÉDIN and Mr. S. ROWLAND made a preliminary communication on the Presence of a Proteolytic Enzyme in the Spleen. The material on which the investigations had been made consisted (in the main) of the intracellular contents of the cells of the organs. (This material had been prepared by Mr. Rowland with the aid of special mechanical appliances devised for the purpose, whilst the search for enzymes had been conducted by Dr. Hédin.) In the first place it was tried whether such material would ferment its own albumin if allowed to stand at blood heat in the presence of an acid. The presence of proteolysis was sought for by determining the amount of nitrogen which was not precipitated by tannic acid before and after the expiration of certain times, the final products of the decomposition of albumin not being precipitated by tannic acid. In the case of the spleen it was found that this nitrogen regularly increased as time advanced. This increase was slight in alkaline and neutral solutions, but considerable in slightly acid solutions. The spleen juice itself always had an acid reaction and sometimes it was so strongly acid that the addition of an acid did not increase the acid reaction. Control experiments were made so as to ascertain whether the boiled juice digested with an acid gave any increase of the nitrogen not precipitable with tannic acid, and the same result was always found in the boiled and digested juice as with the fresh juice. A table of the results was exhibited showing the quantities of nitrogen before and after digestion in presence of acetic acid, sodium carbonate, lactic acid, hydrochloric acid, neutralised solutions, and also showing the results at various times (16, 22, 40, and 90 hours). The researches demonstrated that the albumin of the spleen juice was digested and that this action took place especially in an acid solution; and since there was no difference in the amount of albumin in the boiled and the unboiled juice it was concluded that the changes were due to an enzyme which acted most readily in acid solution. The effect of spleen juice on added albumins was also investigated. Thus a boiled portion of spleen juice was added to a portion that had not been boiled, and the altered amount of albumin was found to be larger than without the addition of the boiled portion. The effect was the same if some blood was added to the spleen juice. The most striking results ensued from the action of the spleen juice on fibrin. If 200 grammes of wet fibrin were added to 450 grammes of spleen juice it was practically all dissolved in about 16 hours. In this case the amount of nitrogen not precipitable by tannic acid without and with the added fibrin was found to be in the former case 34 cubic centimetres and in the latter 57·4 cubic centimetres. It was concluded from the various experiments made that the spleen contained an active proteolytic enzyme which acted most readily in acid solutions, and this substance Dr. Hédin and Mr. Rowland proposed to designate "lienase."

Dr. A. HARDIN made a communication on the Fermentation of Glucose by Sanarelli's Bacillus Icteroides. The culture employed was received from Kral and showed all the usual cultural tests of this organism. The organism was cultivated in a 1 per cent. solution of Witte's peptone, containing 20 grains of pure glucose and 10 grains of chalk, under anaerobic conditions, in an atmosphere of nitrogen. At the end of four weeks the evolution of gas had ceased and the products were examined and found to be the following: lactic acid, 49·2 per cent.; acetic acid, 15·9 per cent.; alcohol, 10·8 per cent.; succinic acid, 3·3 per cent.; formic acid, 1·5 per cent.; and carbon dioxide, 16·0 per cent. The lactic acid was lævo-rotatory and consisted of about 10 per cent. of inactive and 90 per cent of active acid. The gas consisted of carbonic acid and hydrogen. After allowing for the volume of carbonic acid produced by the action of acids on the chalk it was found that the carbonic acid and hydrogen had been formed from the sugar very nearly in the ratio 1 : 1. These products were precisely similar both qualitatively and quantitatively to those formed by the bacillus coli communis under the same conditions. This was in agreement with the observations of Cushing on the gas and acid production of this organism.

Dr. R. T. HEWLETT made a communication on the Nature of the Indol-reacting Substance present in Diphtheria Cultures. He had, he said, at a previous meeting of the Pathological Society of London drawn attention to the fact that cultures of the diphtheria and of the pseudo-diphtheria (Hoffmann) bacillus yielded a pink colour when treated with a nitrite and acid which resembled the colour given when traces of indol were present. The substance, however, was not indol, as it was non-volatile. Further experiments had been made to isolate and determine the nature of this substance, and these had proved it to be skatolcarboxylic acid. This compound was non-volatile, easily soluble in alcohol and ether, and feebly so in water. With nitric acid and a nitrite a reddish pigment was formed which was freely soluble in acetic ether. With hydrochloric acid and perchloride of iron it gave a cherry-red colour which was taken up by amyl alcohol. With hydrochloric acid and chloride of lime it gave a reddish colour, this pigment being likewise soluble in amyl alcohol. The substance isolated from the diphtheria cultures conformed to all these reactions. The fact that both the diphtheria bacillus and the pseudo-diphtheria bacillus formed skatolcarboxylic acid might be regarded as additional evidence of the relationship between these two organisms.

Dr. HEWLETT also made a communication (illustrated by cultures and specimens) on the Probable Identity of Achalme's Bacillus of Acute Rheumatism and the Bacillus Enteritidis Sporogenes of Klein. On one occasion he (Dr. Hewlett) had isolated from a case of acute rheumatism a bacillus which conformed in all particulars to that described by Achalme.[1] He was also struck with the resemblance between the latter organism and the bacillus enteritidis sporogenes of Klein. Having been courteously furnished with cultures of Achalme's bacillus by M. Achalme himself Dr. Hewlett had compared the two organisms and was unable to distinguish any marked difference between them. Both were anaerobic, anthrax-like bacilli, curdling milk in a peculiar way, forming spores only under certain but identical conditions (namely, on gelatin, but not on agar), forming gas and liquefying gelatin, and having a marked and distinctive pathogenic action upon guinea-pigs. Morphologically, culturally, and in pathogenic action the two organisms seemed to him (Dr. Hewlett) to be identical.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

Proposed Epileptic Colony.—Murder the Result of Pure Homicidal Impulse.—Death of the late Queen.—The Chemistry of Nerve Degeneration.—Morbid Changes in Dementia

A GENERAL meeting of the members of this association was held on Feb. 14th. at the London County Asylum, Claybury, Essex, Dr. FLETCHER BEACH, the President, being in the chair.

Mr. W. C. CLIFFORD SMITH, engineer to the Asylums Committee of the London County Council, read a paper on, and exhibited the plans of, the Proposed Epileptic Colony to be Built on the Horton Estate, Epsom, the building having been designed by Mr. Clifford Smith on the lines suggested by Mr. G. J. Cooper, L.C.C., in his report upon "A Scheme for the Establishment of an Epileptic Colony."—In the discussion which ensued Dr. J. WIGLESWORTH described a visit which he paid to Germany last spring to inquire into the segregation treatment of the insane there. As a result of the visit he recommended the adoption of the system for a Lancashire asylum which was then being projected. The present suggestion was that villas should be for both epileptics and imbeciles. The villa system had attained great development in Germany, particularly in the newer asylums, where a colony was established in connexion with the main buildings, or the asylum consisted entirely of such villas, accommodating from 40 to 50 patients each. He was much impressed by the comfort and general home-like surroundings, and he thought future developments should be on those lines in preference to the colossal buildings of which those at Claybury formed such a magnificent example. Much credit was due to Mr. Clifford Smith for his efforts, as he was one of the pioneers of the movement in this country. He understood it was suggested that there should be a large central dining hall, to which the residents of the surrounding villas should resort for their meals, or at least the hot ones. He (Dr. Wiglesworth) was in favour of the opposite plan—namely, that the meals should be served in the separate residences—then the conditions came much nearer those of home life. In Germany the dinners were sent to the residences on wagons from a central cooking establishment, and they succeeded in getting all the meals served in a reasonable time. The food was practically surrounded by a hot-water jacket. With regard to heating, in many of the German asylums there was a small simple boiler for hot water, in addition to open fireplaces, and he thought that on the whole such a plan was the best for warming the dormitories at night. He thought that the patients in any one villa should number from 36 to 40. For these there should be four attendants, and for the supervision of the attendants he advocated the tell-tale clock system.—Dr. A. R. URQUHART agreed that there should be four attendants to each villa, and that the number of inmates of any one villa should not exceed 40. With reference to the question of heating, in two projected asylums for Edinburgh and Aberdeen it was intended to supply steam from a central boiler. That plan had been found practicable for an American town of 30,000 inhabitants which he had visited, where the houses of the better classes were provided with steam from a central station, at prices which varied with the house rentals. The extreme distance to which the steam was supplied was about two miles. For Aberdeen he suggested a saddle boiler, like an ordinary conservatory boiler, for each villa, to be regulated by the scullery attendant. In his own house some years ago he had his kitchen boiler connected with a system of radiators, and had now the satisfaction of knowing that the heat was not passing up the chimney but was being distributed to various parts of the house. Recently a paper was read before the Institution of Civil Engineers by Mr. Roberton, in which he advocated a considerable extension of the system, claiming that by means of two specially-designed zig-zag boilers in the kitchen any ordinary mansion could be well heated. Reference had been made to the German method of conveying the meals in specially constructed vessels, but what kind of meals were they? The last such meal he saw conveyed round consisted of vegetable soup with a herring floating in it. Such meals would scarcely do for English institutions. In Hartford, Conn., U.S.A., where there were a number of villas for people of the higher social grades, dinners were sent round by means of an underground channel, and with considerable success.—Mr. H. F. HAYES NEWINGTON thought the villa system was applicable to other than epileptic patients. With regard to the food, the right object to aim at was the approximation of the conditions to those in home life, but he hoped that a more suitable name would be found for the buildings of the colony than "villa." As to heating the institution, in a new asylum in Sussex the intention was to heat the villas by means of open fire-places as far as possible, though in an epileptic colony there was the difficulty that patients might fall into the fire. In the asylum to which he had referred provision had been made underneath for a heating chamber for use if necessary. As to the arrangements for supplying food, it was decidedly institutional and not conducive to domesticity to send the patients to take their meals together in a large

[1] Annales de l'Institut Pasteur, xi., 1897, p. 845.

dining-hall. That, however, could be overcome by supplying the dinners to the villas in carts from a central establishment, as was to be done in Glamorgan. In that county three villas were being built, and in respect of one of them the cart system would be adopted. For the other two there would be a separate kitchen in each, and they hoped to be able to get a good housewife who would be able to see to the necessities of the patients and who could so regulate the food as to effect a saving.—Dr. ROBERT JONES (Claybury) pointed out that the plans exhibited by Mr. Clifford Smith did not provide for a chapel for the patients. The epileptic was the only person who possessed the perfervidity of temperament which made him feel most comfortable in chapel. Would it not therefore be better that the patient should have his *summum bonum*, a chapel, the place which was to him a veritable haven of rest?—Mr. CLIFFORD SMITH briefly replied. He could only look at the religious feeling of the patient from an engineering standpoint. If the epileptic required a chapel the engineer would say, let him have it. The question of heating was a vexed one, and it had been his lot to deal with every type of heating which had been devised—high-pressure steam, low-pressure steam, high-pressure water, low-pressure water, and electric heating. Many grievous ills were laid by some at the entrance to the door of the system of heating, such as tuberculosis and colitis. By carrying out the scheme he had outlined they could have a system of heating such as was common in the houses of the people, and they could have the opportunity of ascertaining whether the same evils accrued from that system as were alleged against the other methods. As to food, it had been admitted that it was good to go out to dinner every day, and that was what the epileptics would do under that scheme. He was not quite sure what arrangements could be made for the staff, but if they would only walk to the central dining-hall they could be sure of a substantial cooked meal.

Dr. WIGLESWORTH read a paper entitled a Case of Murder the Result of Pure Homicidal Impulse. The murder was committed in a Lancashire asylum by a female inmate in obedience to a sudden homicidal impulse, the patient never having shown while there any such tendency. Subsequent investigation, however, showed that her behaviour at other institutions might have been so construed had the full facts been known.—Dr. L. A. WEATHERLY related the circumstances of a murder near Bristol committed by a lad, aged 17 years, the victim being a farmer who gave the lad a "lift" in his cart towards his home and was stabbed to death while driving. It was shown that the demeanour and character of the lad had changed from the time he received an injury to his kidney in a tram accident. Dr. Weatherley proved eccentric behaviour from that date, but the prison surgeon said he found nothing mentally abnormal. The result was that the boy was adjudged guilty. On strong representations being made on the subject the sentence was altered, but only to one of penal servitude.—Dr. BOYLE spoke of a murder case in Nottingham in which he would have to give evidence. The alleged perpetrator of the crime denied all knowledge of the act, insisting that he could not remember anything beyond a certain time, but he gave a very cogent history of his doings up to that time. The first thing he said he remembered afterwards was the attempt of the police surgeon to "stomach-pump" him. There was no family history of epilepsy; the father died from apoplexy, and one sister died insane. The patient himself had sunstroke some years ago. He asked whether it was possible for a non-epileptic to lose consciousness for several hours, to commit a crime during the period, and then to regain normal mental control.—Dr. R. H. NOOTT suggested that in a few days the amnesia might pass off and then careful questioning might bring out a motive for the crime.—Dr. MORRISON related the case of a man with occasional homicidal impulse who had managed to conceal it owing to his fear of being placed in an asylum, but one day on being found in a typical epileptiform attack he was closely questioned, and the facts were then admitted. He appeared to have stuck pins all over his body during unconsciousness, and to have repeatedly stabbed the site of an inguinal hernia. He suggested that Dr. Boyle's case might be one of *petit mal*.—Dr. ROBERT JONES said that the patient who formed the subject of Dr. Wiglesworth's paper was twice in Claybury Asylum, once for six weeks and again for six months, but never showed any homicidal tendency. On the certificate for the second admission, however, it was stated that in another asylum she had said that she would "kill somebody."—Dr. WIGLESWORTH briefly replied. In regard to Dr. Weatherley's case he was not surprised at the decision of the jury seeing that the medical experts differed. He was inclined to regard Dr. Boyle's case as one of unconscious cerebration. He quite believed there were such cases.

The PRESIDENT, in opening the proceedings of the Pathological Section, referred in suitable terms to the nation's loss in the death of the late Queen, and a resolution of sympathy and condolence with the King was approved and ordered to be forwarded to the proper quarter.

Dr. W. D. HALLIBURTON, F.R.S., gave an address (in the absence, through illness, of Dr. F. W. MOTT, F.R.S., pathologist to the asylum) on the Chemistry of Nerve Degeneration. The address was illustrated by numerous lantern slides.

Dr. JOSEPH BOLTON read a paper, supported by many lantern views, on Morbid Changes in Dementia.—In the discussion which followed the PRESIDENT, Dr. WIGLESWORTH, and Dr. ROBERT JONES joined.—Dr. BOLTON'S reply closed the proceedings.

WEST LONDON MEDICO CHIRURGICAL SOCIETY.—A clinical meeting of the above society was held at the society's rooms on March 1st, Dr. F. F. Schacht, the President, being in the chair.—Mr. G. L. Cheatle showed a boy on whom he had performed a new operation for Prominent Auricle. This operation was based on the principle that the antihelix was the part in excess causing the deformity, and the tissues were transfixed, a large, somewhat irregular, crescentic piece of the antihelix was removed, as was a small portion of the lower border of the helix. The result was very satisfactory, although the ears were not quite symmetrical, but the experience gained from this case would enable the operation to be performed more successfully in the future.—Dr. J. Barry Ball, Dr. Seymour Taylor, and Dr. Peyton discussed the case.—Dr. Ball read the report of the Microscopic Investigation of a Small Growth, probably an Endothelioma, removed from inside the ala nasi of a young woman.—Dr. Ball read notes of a case of Tuberculosis of the Skin and Mucous Membranes. The patient was shown at a meeting of the society last JULE. She was a woman, 22 years of age, who had extensive lesions of the skin, as well as of the gums, the palate, the pharynx, and the larynx. There was some difference of opinion at the time, but it was generally admitted that the condition resembled lupus. However, some maintained that the skin lesions were most probably syphilitic, and it was suggested that a thorough mercurial course would be beneficial. The patient, was, therefore, treated with mercury internally and as an inunction. During this period the condition of the mucous membranes improved, but there was no change in the skin lesions. The mercury was then given up and the lesions were treated by excision, cautery, or curetting. She rapidly improved and was on the point of leaving the hospital when she was seized with an attack of cerebral meningitis from which she died. The diagnosis of meningitis was confirmed by post-mortem examination, and Dr. Ball had no doubt that all the lesions from which she suffered were tuberculous in character.—Mr. Keetley and Dr. H. G. O. Wharry made some remarks.—Dr. Seymour Taylor showed a case of atrophy of the short muscles of the right hand in a case of tabes dorsalis. The patient had well-developed tabes, but in addition he had marked wasting of the short muscles of the right hand, which showed all the electrical reactions of degeneration. The left hand was not attacked. This, Dr. Taylor argued, proved that the patient had some local involvement of the cells in the anterior cornua of the cord supplying that particular group of muscles, this sclerosis having spread from the posterior external columns of the same side; it could not be peripheral in origin, as sensation had not been lost. He had had syphilis and had been treated for it, but with no amelioration of the symptoms.—Dr. A. Whitfield showed a male patient, aged 28 years, suffering from Neuro-fibromatosis or von Recklinghausen's disease. He was well up to nine years of age, after which these tumours appeared and gradually increased in number. They varied in size from that of a pin's head to that of a large hazel nut, were soft, normal or reddish brown in colour, adherent to the skin, and were most numerous on the trunk, then on the arms;

there were but a few on the legs. He also had a large semi-fluid swelling of the left cheek. There were no signs of myxœdema, but he had a very small thyroid. Microscopically a section of one of the tumours showed a few nerve fibres. The tumours were not painful or tender.—Mr. A. S. Grant showed (for Dr. P. S. Abraham): (1) A case of Pityriasis Rosea of Gibert; and (2) a case of Leucoderma and Melanoderma, with pruritic eczema from scabies, acne, and tertiary ulcers on the legs, the interest of the case consisting in the multiplicity of skin troubles.—Mr. Bidwell showed a case of Carcinoma of the Transverse Colon treated by excision, followed by ileo-sigmoidostomy. The patient was a man, aged 59 years, who had had attacks of abdominal pains for three years. When examined he had a long sausage-shaped tumour of some three or four inches in the left hypochondriac region. There was no intestinal obstruction. The patient refused operation, but about three months later an abscess burst near the umbilicus, another near the left inguinal region, and a third beneath the ribs on the left side. They continued to discharge pus and fæcal matter. On Dec. 20th, 1900, he was operated upon; the sinuses were slit up and scraped; the sinus under the ribs was followed up and it led to a perforation in the transverse colon, beyond which was a large growth. This was drawn outside the wound and the mesentery was tied in segments. A ligature was placed around the colon, one inch above and below the growths, and tied tightly. The abdominal wound was closed as much as possible. Three days afterwards the growth was excised, the ligature around the bowel was cut through, and an artificial anus was established. His general condition rapidly improved and on Jan. 20th the abdomen was reopened and the lower end of the ileum was united to the sigmoid by a lateral anastomosis. Three days afterwards the patient had a normal motion. As fæces still passed as well by the artificial anus the abdomen was reopened a fortnight later and the portion of intestine between the anastomosis and the cæcum was occluded. Since this the patient had put on flesh and had had a normal motion daily, although he had only about six inches of large intestine. Mr. Bidwell thought this method far safer than an end-to-end anastomosis, as there was not so great a strain on the sutures from semi-solid contents of the large intestine.—Dr. E. A. Saunders and Mr. McAdam Eccles discussed the case.

CHELSEA CLINICAL SOCIETY.—A meeting of this society was held on Feb. 19th, Dr. William Ewart, the President, being in the chair.—The President, in speaking of the Formaldehyde Treatment for Phthisis at Davos, described the remarkable improvement which had occurred in one of his patients whom he had injected on Jan. 12th, the first instance of a complete course of this treatment in the Alps. The case was that of a young man with acute asthenic catarrhal tuberculosis developing after the occurrence in Davos of a second profuse and almost fatal hæmoptysis. Before making the first injection the chances of recovery had appeared to him to be almost hopeless. Dr. F. Buol who had continued the treatment, now reported the patient able to sit up and to take strong food, the temperature was normal instead of hectic, and the profuse, heavy, purulent expectoration had changed to a lighter muco-pus and its bulk diminished more than one-third. The case illustrated the inadequacy of mere climatic treatment for the control of severe acute pulmonary tuberculosis, and the advantage which was likely to be gained when the formaldehyde treatment could be carried out with the additional help of the best climatic influences.—The President also exhibited two cases now under treatment at St. George's Hospital not quite so severe. Both had improved considerably; in one of them the bacilli were no longer found.—Mr. J. Foster Palmer made a further communication concerning an Organism passed from the Urethra of a Male Patient, which he had exhibited at a former meeting. Further investigation had shown the organism to be the larva of Homolomyia Scalaris, a small species of house fly. These larvæ, Mr. Palmer remarked, had been found in the rectum, but their presence in the urethra was exceedingly rare, not more than some 30 cases having been recorded since the time of Ambrose Paré, who was the first to describe the condition in 1582. Mr. Palmer's patient was present at the meeting, but showed no symptoms beyond some thickening in the penile portion of the urethra.—Mr. F. C. Abbott read a paper on Spinal Curvature and Physical Exercises. He dwelt on the inadequacy and failure of past lines of treatment and the disgrace that they should allow a mere temporary weakness to leave them such a legacy of cripples. Nor was the spinal deformity the only bad result; the effect on the chest was almost more important through leaving diminished resistance and increased liability to chest disease. Ordinary gymnasia run on purely hygienic lines were not sufficient and might do harm, as unless the exercises were well devised and controlled the stronger muscles must win and increase the deformity. After describing his own experience in the physical exercise department at St. Thomas's Hospital, and analysing the cases there treated, Mr. Abbott classified the cases according to prognosis into the three following groups. 1. Those in which the spine could be entirely straightened by the voluntary efforts of the patient alone. These cases rapidly improved, could take strong exercises from the first, and could easily be taught suitable "free standing" exercises for home use. 2. Those in which the deformity could not be obliterated by any effort on the patient's part alone, but could be made to disappear on suspension in a suitable position, and in bad cases by moulding as well. These were the cases true Swedish exercises did most for, while home exercises and mere free standing movements failed and might do harm. During resistance movements well carried out even severe curves which neither the patient alone by her muscles nor an assistant alone by mere moulding or pressure could correct might be seen to straighten. Massage in these bad yet still hopeful cases was most useful. 3. Those in which permanent bony and ligamentous changes prevented any correction of the deformity. Forcible and strong exercises could only increase the deformity in these cases owing to the great advantage at which the muscles in the wrong side were acting. In these cases they should aim only at general muscular improvement and then fit a light spinal support. Mr. Abbott pointed out that the spinal muscles in these cases were not the only weak ones, but that weak abdominal muscles in such patients were often the cause of constipation, moveable kidney, &c., while a few patients were on the high road to general enteroptosis. For all these associated medical conditions and for increasing the chest capacity and range of movement the exercises produced really brilliant results. The importance of taking a correct fundamental position was insisted upon and the different strengths of any exercise according to the position taken were pointed out. The movements used were divided into (1) active, used as "free standing" movements without any help both as "changing position" and "fixed position" movements, without any "holdings"; (2) passive, used as general respiratory passive movements, as local passive movements, or massage and as "mouldings," these last being of little importance except when combined with active movements; and (3) resistance, used both as "active-passive" and "passive-active." No mechanical contrivance could equal this graduated resistance of a skilled attendant, graduated as to time, strength, and point of application. Typical cases of the various deformities were shown, and the effects produced by the various main groups of exercises were demonstrated on them.—A discussion followed in which Dr. Charles Ewart, who described a method of treatment lately adopted in Paris and associated with the name of M. Lannelongue, Dr. J. Blumfeld, Mr. R. L. Norman, Mr. D. Vinrace, and Mr. R. Roche took part.—Dr. C. J. Harrison subsequently made a communication on the subject of Acute Rheumatism in Childhood.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—The fourth meeting of the session was held on Feb. 20th at the Guildhall, Windsor, Mr. W. B. Holderness, J.P., the President, being in the chair.—The President opened the meeting with a few words touching the lamented death of Her late Majesty Queen Victoria, and embodied in a resolution, which was unanimously carried, the profound grief of the members of the society at the sad event and their sympathy with His Majesty King Edward VII.—Dr. W. F. Lloyd showed a specimen of an Ovum with Imperfect Development of the Decidua.—Mr. R. H. Paramore showed (by kind permission of Dr. W. A. Ellison) a specimen of Aortic Aneurysm from a man, aged 56 years. The aortic valves were rigid and heaped up with calcareous deposit.—Dr. E. B. Hulbert showed (by kind permission of Mr. J. R. Lunn of St. Marylebone Infirmary) the following: 1. An excised Bursa Patellæ showing old and recent inflammatory changes. 2. Specimens of Tuberculous Kidney and Bladder from a woman, aged 53 years. The right kidney was much atrophied and contained several caseous masses. 3. Two Photographs of a case of Elephantiasis of the Leg in a man, aged 70 years, formerly resident in the tropics.—

Dr. C. R. Elgood showed a specimen of a Dissecting Aneurysm of the Aorta from a gouty painter, aged 49 years. The aortic valves were sound. He also showed, (1) a case of Muscular Development after Sandow's Exercises; (2) a case of Ulceration of the Epiglottis; and (3) a woman whose Urine contained an abundant Deposit of Fat.—The adjourned discussion upon the Effect of Severe Athletic Exercise in the Young was resumed by Dr. M. S. Pembrey who said that the dyspnœa of exertion was not due to an accumulation of carbonic acid gas in the blood but was of cardiac origin and an effect of compensation. Rapid respiration assisted the flow of blood from the right to the left side of the heart. Alluding to "second wind," he believed that this was entirely a question of compensation between the heart and the respiratory pump. An increase of blood-pressure occurred during exercise—often reaching 40 millimetres of mercury. As evidence of heart strain caused by exercise taken by boys out of training he instanced two cases of dilatation of the right side of the heart after a hard bicycle ride. A rise of temperature also occurred during exercise; this was always apparent when the temperature was taken in the rectum or urine instead of in the mouth. The rectal temperature during exercise rose to 100° or 101° F., without any bad result. After severe exercise, and especially if the subject was unable to compensate, the rise was higher. In his opinion there was no doubt that severe muscular exercise was bad for the young, for there was often no time for efficient compensation. It was for this reason that training should be gradual and was so necessary a preliminary to a hard race.—Sir W. H. Broadbent agreed that the dyspnœa of exertion was cardiac. He had never accepted the chemical theory, for the worst dyspnœa occurred before there was time for the blood to become charged with carbonic acid gas. With regard to "second wind," the first effects of dyspnœa arose from the too rapid forcing of blood into the right heart from pressure on the veins by the muscles, the respiratory pump being unable to effect its removal sufficiently rapidly. The second wind came when the right heart had unloaded and redistribution of blood had taken place, this being helped by relaxation of the arterioles. Alluding to cardiac overstrain he laid stress on the importance of high arterial tension, and alluding to the great differences found in arterial tension among children he said that he had seen the worst dilatation of the left ventricle in high tension cases. In everyone there existed a line beyond which exercise was injurious, and as indications when that line had been reached he mentioned that after the exertion the dyspnœa continued, the heart failed to subside, and sleep was lost. He had seen a good deal of damage done to the heart mostly when exercise had been taken by persons when they were in bad health. He thought that when a murmur was traceable to an attack of rheumatic fever then exercises might be properly curtailed, but this did not hold in the case of a murmur in the pulmonary area, which disappeared on taking a deep breath and was due to an inadequate cushion of lung over the conus arteriosus. He had also learnt to disregard the importance of a tricuspid murmur which was audible in the erect but not in the supine position.—Surgeon-General Cayley said that among the more immediate effects of severe climbing exercise in the mountainous regions of hot countries he had noticed a temporary indisposition occurring in those fresh to the work. It soon, however, passed away, and was, he considered, probably the effect of a feverish condition. So, too, the "heat fever" observed in hot climates and which affected new-comers only. This, he thought, was induced by severe exercise and exposure to heat in those unaccustomed to the climate. In his experience he had found that irritable, nervous hearts were apt to fail sooner than those with more steady action.—The discussion was continued by Mr. H. E. Bruce Porter and Mr. E. W. Adams.—Dr. E. S. Norris briefly replied.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 1st, Dr. Gordon Black, the President, being in the chair.—Dr. A. Mantle (Halifax) read a paper entitled "Remarks upon Some Forms of Vaso-motor Disturbances, including Raynaud's Disease." He said that he wished the paper to be understood as a preliminary contribution to a subject which he had been investigating at the Royal Halifax Infirmary. After recalling the ordinary symptoms observable in the extremities in Raynaud's disease, which, he remarked, were frequently overlooked except when the extreme condition of gangrene was developing or was present, he dwelt upon the changes occurring in the brain which he believed to be of vaso-motor origin. Migraine was a common symptom in a large proportion of the cases. In a considerable number epileptic attacks occurred—a single attack or more at varying intervals. In the insane as well as in the epileptic vaso-motor disturbances of the circulation were observed. Palpitation was a very common symptom and angina vaso-motoria was cited as seen occasionally. Arterial tension in the majority of cases was minus and a varying degree of dilatation of the heart was noticeable. Dr. Mantle had only seen one case of hæmoglobinuria, and this was in a patient with high arterial tension who was a great meat-eater. He thought it comparatively rare and, as in hæmorrhage from the nose, uterus, or bowel, that it was associated with a plus blood-pressure. These patients usually expressed themselves as feeling better after the loss of blood. Gastric cases were referred to in which food excited a feeling of pain and coldness of the extremities and body. These cases were not seen in the anæmic condition in which gastric disturbance was most frequent. Pains of a colicky character of varying duration occurring in the abdomen were also referred to. There was always a sad and anxious expression of countenance in all of these cases of vaso-motor disturbance. In some, particularly in the female sex, he had observed an enlargement of the thyroid gland, accompanied or not with proptosis, generally bilateral but sometimes unilateral. In others proptosis existed alone. These cases were quite distinct from Graves's disease and had no tachycardia and as far as he knew were undescribed. The symptoms were suggestive of a thyroid origin. In many there were changes in the nails of the fingers which were not only friable and malformed, but might have white or darker scars on them. The skin was sometimes bronzed or the condition of scleroderma was noticeable. Ophthalmoscopically in the cold stage he had observed contraction of the retinal arteries with dilatation of the veins. Dr. Samuel Lodge had noticed changes in the field of vision in several of his cases. Shock by lightning and, in the case of a soldier returned from South Africa, sunstroke had been the exciting cause in two of his cases. With the aid of lantern slides Dr. Mantle showed the chief points which he wished to call attention to in his cases and stated that he found suprarenal extract most helpful in their treatment, probably by raising the blood-pressure.—The President, Dr. Gordon Sharp, Dr. E. W. Selby, Dr. J. Kerr, Dr. T. W. Griffith, and Dr. H. J. Campbell joined in the discussion and Dr. Mantle replied.—Dr. W. Edgecombe (Harrogate) described a case of Secondary Anæmia due to repeated slight loss of blood from the nose, continuing over a period of 12 years, which finally presented all the symptoms of pernicious anæmia.—The President, Dr. S. Lodge, jun., Dr. A. G. Barrs, and Dr. E. F. Trevelyan took part in the discussion.—Mr. H. Littlewood showed a patient whose thigh had been amputated under an intra-spinal injection of cocaine.—Mr. B. G. A. Moynihan showed a patient after cholecystectomy for fistula between the cystic duct and the duodenum, the result of a calculus impacted in the termination of the cystic duct.—Other cases and specimens were shown by Dr. J. E. Richards (Huddersfield), Dr. T. Churton, Dr. A. Christy Wilson (Doncaster), Dr. Godfrey Carter (Sheffield), Dr. William Fearnley (Harrogate), Dr. J. Allan, Mr. A. L. Whitehead, Mr. E. Ward, Dr. J. B. Hellier, Dr. T. W. Griffith, Mr. Lawford Knaggs, and Dr. E. F. Trevelyan.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on Feb. 15th at Liverpool, Dr. T. B. Grimsdale, the President, being in the chair.—Dr. J. E. Gemmell (Liverpool) showed a Solid Ovarian Tumour weighing three and a half pounds which he had removed by abdominal section from a woman, aged 30 years. The patient had ascites and symptoms of twisted pedicle. The tumour reached as high as the umbilicus and a sense of ballottement was elicited on vaginal examination. The tumour was solid, hard, yet boggy in consistence, smooth on the surface and furrowed, with large veins coursing over it. On section the upper portion of the growth was firm, hard, and typically fibroid in character, the fibrous tissue being arranged in the usual concentric fashion; in other portions the tumour was softer and injected with blood due to the strangulation of the twisted pedicle. The microscopical sections of the tumour showed it to be a fibroma. Two small fibroids were also present in the uterus and were enucleated. The left ovary was normal.—Dr. Gemmell also showed a specimen of Bilateral Surface

Papilloma. The growths covered the ovaries and were cauliflower-like in appearance, of a salmon pink colour, mainly pediculated with thin slender pedicles, a few only being sessile. Microscopically the papillary projections consisted of a stroma with numerous cells and blood-vessels covered with columnar epithelium. The growths were removed by abdominal section from a patient, aged 32 years. There was no ascites and no secondary deposits existed.—Mr. Rushton Parker (Liverpool) showed a large Fibro-cystic Tumour of the Uterus weighing 23 pounds, removed by abdominal section from a woman, aged 43 years. A serous cyst of doubtful origin was also found in the left side of the pelvis. The patient progressed favourably until the ninth day when she developed tetanus, from which she died on the following day. Anti-tetanic serum was used in vain.—Dr. W. Walter (Manchester) showed a Uterus removed by vaginal hysterectomy from a patient, aged 45 years, for an epithelioma of the posterior cervical lip.—Dr. Arthur Wallace (Liverpool) related a case of Perforating Laceration of the Cervix Uteri. The patient was a young married woman with a history of missed abortion. The cervix was of unusual length and lay curled up under the bulging anterior wall of the corpus uteri. The cervix was drawn into its proper axis with a vulsellum and a laminaria tent was inserted. Some hours afterwards the tent was expelled and following it a carneous mole, the passage of the latter being accompanied with unusual pain. On examination next day the cervix was found to be undilated, but a large opening was found behind the os large enough to admit two fingers. The opening extended from the os internum through the posterior cervical wall into the vagina, leaving a portion of normal cervix both behind and in front of the opening. The uterus was still acutely anteflexed. Dr. Wallace suggested that the laceration was probably due to the resistance offered to the passage of the mole by the long acutely flexed cervix. The peritoneum was not involved.—Mr. R. Faveil (Sheffield) reported a case of Cæsarean Section for Obstruction of Labour by a Dermoid Ovarian Tumour. After the uterine wound was sutured the tumour was raised from the pelvis and removed. The patient made an excellent recovery.—Dr. H. Briggs (Liverpool) exhibited a specimen of Sarcoma of the Uterus.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 19th, Mr. F. Farrow, the President, being in the chair.—Dr. W. H. Horrocks read notes on a case of Stiff Knee-joint treated by Local Hot-air Baths. The case was one in which treatment of a fractured thigh had been followed by great limitation of the movements of the right knee. The Tallerman apparatus was used and the patient received in all about 50 baths. The result was good 18 months after the conclusion of the treatment. Dr. Horrocks remarked that the temperature of the bath should be raised slowly or blistering of the skin might result; also that the general condition of the patient should be carefully watched as a rise of the temperature of the blood and faintness might supervene.—Dr. R. H. Crowley made remarks on six cases of Pernicious Anæmia and showed a tabulated report of the examination of the blood in each case. In many cases the illness commenced suddenly, signs of gastro-intestinal irritation being frequently present. One of the patients was an apparently healthy farm-labourer who was seized with sudden pallor and shortness of breath. Under treatment he improved and was able to resume his work. A second attack came on and ended in temporary recovery. A third attack was accompanied by extensive dropsy and extreme weakness, but when the man seemed to be at the point of death he suddenly began to improve and in the end was discharged from hospital. In all cases there was diminution of the count of both red and white cells. The hæmoglobin percentage was not reduced proportionately to the reduction of the red cells. Diagnostic points were: (1) the presence of large nucleated red cells; and (2) a count of red cells as low as 1,000,000 per cubic millimetre with no proportionate increase of white cells. Owing to the frequent presence of gastro-intestinal symptoms the disease had been regarded by some as due to toxic absorption from the digestive tract, but there was not conclusive evidence of this. The empirical treatment with arsenic seemed sometimes to give favourable results, but owing to the sudden variations in the course of the disease it was exceedingly difficult to estimate the effect of any remedy.—Dr. H. J. Campbell alluded to a case in which an impending fatal termination was apparently averted by the administration of cannabis indica.—Dr. S. Johnston spoke of a case in which the inhalation of oxygen had been followed by temporary improvement, the patient dying from a relapse several weeks later.—Dr. J. B. Hall showed a patient from whom the Sigmoid Flexure and Upper Part of the Rectum had been Removed for Intussusception.—Other patients and specimens were shown by Dr. James Kerr, Dr. Mason, Dr. F. W. Eurich, Dr. Crowley, Dr. S. Lodge, jun., Mr. Ling, Mr. C. F. M. Althorp, Dr. B. H. Slater, and Dr. T. Jason Wood.

SOCIETY OF ANÆSTHETISTS.—A meeting of this society was held on Feb. 15th, Dr. J. F. W. Silk, the President, being in the chair.—The President explained that the meeting was held in lieu of the ordinary meeting on Feb. 1st, which had been postponed on account of the lamented death of Her Majesty the late Queen.—Mr. George Eastes then read his paper on the Conclusions of the Anæsthetics Committee of the British Medical Association.[1] In the discussion which followed Dr. C. Childs remarked that, although he had not taken any active part in the work of the committee for the last five years, he still maintained an interest in the subject and knew what a tremendous undertaking an investigation of the sort involved. He then gave a short account of the inception and formation of the committee and spoke in admiration of their self-denial and energy. He thought that their labours had been brought to a triumphant conclusion and that certain important questions had been very definitely answered.—Dr. Dudley Buxton pointed out that in his paper at Bournemouth, in consequence of which the committee had been originally appointed, he had insisted upon the importance of attacking the subject from the clinical side, and that it was with this object that the investigation had been commenced. He thought that similar investigations should be made in every hospital and public institution. Although much of the time spent upon the commission had been lost, this was inevitable, as they had to feel their way; nevertheless, the results arrived at were of great value, as giving definite evidence, supported by statistics, of certain facts which had hitherto been only matters of surmise or probability. A great feature of the report was the abstracts of the cases upon which the conclusions of the committee were based. He thought that in one or two points the conclusions required amplification and modification, as, for instance, in respect to imperfect or incomplete anæsthesia and with regard to the after occurrence of bronchitis.—The President regretted that such a comparatively small number of "mixtures" had come under the notice of the committee, and he did not think that the conclusions drawn from such small numbers could be looked upon as reliable. He thought, too, that it was a pity that greater stress had not been laid upon the importance of carefully selecting the anæsthetic in accordance with individual requirements, and he quite agreed with Dr. Buxton that inappropriate selection accounted for a good many of the cases of bronchitis.—Mr. Eastes replied.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—A meeting of this society was held on Feb. 27th, Dr. A. J. Harrison, the President, being in the chair.—Dr. P. S. Abraham showed a case of Lupus Erythematosus in a young woman, both cheeks and the backs of the finger being affected. When first seen the patches on the cheeks were vesicating.—Mr. G. Pernet called attention to the fact that there was a history of phthisis in the patient's family, as was so often found to be the case in lupus erythematosus.—Dr. Abraham also showed a case of Raynaud's Disease in a middle-aged woman affecting the tips of the fingers and the toes.—Dr. R. L. Bowles remarked that the patient's heart was large, probably dilated, and advised that treatment should be directed to improving the nervous system.—Mr. T. J. Hitchins said that, acting on the advice of Mr. Jonathan Hutchinson, he had treated a case of Raynaud's disease of nine years' duration which had been under his care with quinine and opium with very satisfactory results.—Mr. Pernet recommended nitro-glycerine in these cases.—The President showed (1) a Photograph of a Bromide Eruption which occurred in a single patch on the site of an old injury from a kick on the leg of a boy; and (2) a drawing of a Tertiary Syphilitic Eruption on the leg

[1] Brit. Med. Jour., Feb. 23rd, 1901.

of an old man.—Mr. Pernet showed several Microscopical Specimens.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—A meeting of the Section of Obstetrics was held on Feb. 8th, Dr. A. V. Macan, the President, being in the chair.—Dr. Alfred Smith showed Two Large Fibro-myomatous Uteri which he had removed for bladder symptoms. They were interesting from the fact that both tubes and ovaries were at the right side of the pelvis close to the brim. The displacement was caused by the growth of the fibro-myoma.—Dr. Alfred Smith also showed an Ovarian Cyst of the size of a six months' pregnant uterus which he had removed from a patient, aged 34 years. It had become more or less solidified by repeated hæmorrhages into its spaces. There was a history of repeated attacks of abdominal pain which was at first mistaken for peritonitis. Extensive fresh adhesions were present; there was no torsion of the pedicle and microscopic sections did not reveal any peculiarity of structure which would explain the presence of so large a defibrinated clot and the extensive fresh hæmorrhage into the centre of the cyst.—The President said it would be interesting to know what was the cause of the hæmorrhage in this case. One of the largest tumours which he had removed was a fibroid in which hæmorrhage had occurred, forming an enormous cyst. He thought that the attacks of pain which Dr. Smith had referred to were due to the hæmorrhage.

Reviews and Notices of Books.

Practical Gynæcology: a Comprehensive Text-book for Physicians and Students. By E. E. MONTGOMERY, M.D. With 527 Illustrations. London: Rebman, Limited. 1901. Royal 8vo. Pp. 819. Price 25*s.* net.

THE author of this work begins his preface by saying that he will offer no apology for presenting another text-book on gynæcology. We are inclined to think that the time has almost come when it should be incumbent upon all writers of such works to do so, unless they can produce evidence of some originality in the book they have written or some urgent need for its production. Dr. Montgomery might reply that his text-book is original in its method of classification. No doubt this is so, and possibly the method has all the advantages claimed for it. The whole subject is considered under four main divisions—viz., Malformations, Inflammations, Deviations, and Tumours. Such a classification leads to some misuse of terms; for instance, the inclusion of injuries to the cervix and rupture of the perineum amongst malformations. The first part of the book gives a good and full account of the various methods of examination of the patient, and the anatomy and physiology of the pelvic organs. The author enters into considerable detail on the matter of operative procedures, no less than 19 different methods of repairing the perineum being described. Similar detail is shown in the section upon fistulæ, which gives a clear and well-illustrated recital of the operations that may be performed for such conditions. This is one of the best parts of the book. In considering vaginismus no clear distinction is drawn between cases of true vaginismus and dyspareunia, and yet the difference is important from the point of view of treatment. Under urethritis Dr. Montgomery writes of simple hyperæmia, an acute urethritis, a chronic interstitial urethritis, and a follicular urethritis. He enters very fully into the important question of treating these conditions, which too often receive but scant notice in books upon diseases of women. We cannot agree with the statement that "chronic metritis is responsible for a large proportion of the sofa and bath-chair population—the nervous, debilitated, dyspeptic women who wander from physician to physician or crowd the watering-places during the summer." We would rather have said that the causes of chronic metritis are responsible, not the disease itself, which is a matter of much less importance than the reader would be led to believe from the long list of symptoms which Dr. Montgomery mentions as caused by its presence. Under the treatment of inflammatory conditions of the tubes due stress is laid upon the great importance of complete rest and local treatment before resorting to operative interference. The balance is duly held between the abdominal and vaginal methods of operation and the author points out how impossible it is and always will be to treat all cases by the same route. The advice is given to leave a piece of the ovary whenever possible, even if it be necessary to remove both tubes; and this is undoubtedly the right treatment in suitable cases. A good section is that dealing with displacements of the uterus. It is well written and the importance of the accompanying conditions is insisted upon. In the operative treatment of backward displacement Alexander's operation is not recommended. The medicinal treatment of fibroid tumours of the uterus receives more space than is usually allotted to it in the modern text-book, which only too often is mainly concerned with various methods of removing these tumours. We should like to know upon what authority the author makes the statement that a benign (*sic*) cystic mole can give rise to metastases. The book cannot, as we have hinted, lay claim to any great originality, nor can it be regarded as an authoritative work upon gynæcology. It contains, however, a considerable amount of useful information and is well illustrated by a large number of good and well-reproduced drawings. It is surprising to find such errors as "Kuster" for Küstner, "Wydal" for Wyder, "Gärtner" for Gartner, "Pruritis," "Ascarus Scabii" for Acarus Scabiei, and statements such as that on page 588, where, speaking of the microscopic appearance of fibro-myomata of the uterus, the author says: "Occasionally between the muscle bundles are spores—lymph glands lined with endothelium."

Medical Monograph Series. Edited by DAVID WALSH, M.D. Edin. No. 1. Contagious Ophthalmia, Acute and Chronic. By SYDNEY STEPHENSON, Ophthalmic Surgeon to the Evelina Hospital and to the North-Eastern Hospital for Children. London: Baillière, Tindall, and Cox. 1900. Pp. 84. Price 2*s.* 6*d.* net.

THIS little work, which ought to have been noticed at an earlier date, is the first of a series of monographs intended to give to students and practitioners the best and most recent information on important subjects. Contagious ophthalmia is certainly one of these, and that affection could not have been entrusted to better hands than those of Mr. Sydney Stephenson, who has had quite exceptional opportunities of witnessing its outbreak, of seeing its results, and of devising means for preventing its spread in large schools. Mr. Stephenson points out that this particular disease accounts for 10 per cent. of all cases of blindness and yet is one of those that if early recognised and properly treated may be regarded as curable without the slightest impairment of vision; and, indeed, when the circumstances that lead to its occurrence are thoroughly appreciated it may, by the adoption of judicious measures, be almost invariably prevented. In describing the various forms of the disease grouped under the term "contagious ophthalmia" Mr. Stephenson distinguishes three parts of the conjunctiva—the palpebral and ocular regions and the retrotarsal folds—and gives directions for exposing the superior fold. A retractor, he remarks, is hardly requisite, since anybody possessed of a moderate amount of manual skill can bring it into view. He gives a woodcut of the retractor which, if really required, he uses, but it is badly shaded and looks as if it had a button at the end. Recently-ulcerated spots of the cornea and parts of that membrane where the epithelium is degenerated are stained a bright green colour, and the formula given is a useful one; it is,

fluorescin two parts, sodium carbonate three and a half parts, and distilled water 100 parts. Mr. Stephenson insists on the necessity for thorough asepsis, both on the part of the surgeon and of his instruments, and also that goggles should be worn whilst injections are used, and, further, that the tear passages should in all instances be carefully examined and cleansed. Bacteriological examination of the discharge is of great importance and utility. Full accounts are given of the methods of examination both by means of cover-glass preparations and by cultures. The basic stains recommended are methylene blue, carbol-fuchsin, and thionine blue, gentian, or methyl violet. A second cover-glass should always be treated by Gram's method. A plate is given showing some of the organisms met with. Mr. Stephenson considers that mucopurulent ophthalmia, purulent ophthalmia, granular ophthalmia, and membranous ophthalmia are all separate and distinct affections and have a different etiology, though doubtless they possess certain features in common. In regard to the frequency of gonorrhœal conjunctivitis in ophthalmia neonatorum it appears that amongst 446 cases of ophthalmia neonatorum gonococci were present in 72·83 per cent. The conditions known as granular ophthalmia and membranous, croupous, and diphtherial conjunctivitis are all described with much precision. The work, though small, contains a great deal of information and will be found very useful by the practitioner.

A Contribution to the Study of the Blood and Blood-pressure. By GEORGE OLIVER, M.D., F.R.C.P. Lond. London: H. K. Lewis. 8vo, pp. 276. Price 7*s.* 6*d.*

WE should like to see more works of this kind issue from the pens of other physiologists. The author tells us that the leisure afforded by the winters of the past 10 years has enabled him to study in an experimental way several physiological questions having a bearing on clinical medicine, and his professional life during the summer months has furnished opportunities of testing the physiological positions suggested by these inquiries and the practical efficiency of the instrumental methods of observation employed. This is precisely the method in which both physiology and medicine should be studied, and if it were systematically carried out each of these pursuits would be the gainer. The very first chapter shows that as soon as precise experiments are instituted unsuspected difficulties arise. In endeavouring to obtain standard colour tests it was found that no one substance or combination of substances in solution can correctly furnish a percentage series of gradations of hæmoglobin. Such a substance, for example, as carmine, which in dilute solution exactly corresponds with a definite proportion of hæmoglobin, does not present when dissolved in larger proportion precisely the same tint as a corresponding concentration of hæmoglobin.

Dr. Oliver has found Mr. Lovibond's system of graded glasses the best means of determining and comparing variations and degrees of colour. He takes as his standard the mean percentage of hæmoglobin present in healthy human blood containing 5,000,000 corpuscles per cubic millimetre. This amounts to 15·5 per cent. of hæmoglobin and is represented by 100 degrees, and each degree of the scale is equivalent to 0·155 per cent. of oxyhæmoglobin in the sample of blood under examination. Thus 100 degrees represent 15·5 per cent. of hæmoglobin, and determinations above or below that point require the addition or subtraction of 0·155 per cent. for each degree. The examination of the colour of the blood is best conducted by candlelight, daylight being too variable. The author gives a full description of the construction and mode of using his hæmoglobinometer and hæmocytometer. Amongst the many interesting results which Dr. Oliver obtained from his experiments the following may be mentioned. The blood furnished by different regions of the body does not always afford the same proportions of corpuscles and hæmoglobin. The blood furnished by the toes, for example, is much poorer than that afforded by the fingers, but after the application of massage no appreciable difference was observable. Gravity exerts considerable influence, so that the proportion of hæmoglobin is remarkably reduced in the toes and fingers by the *passive* elevation of the hand or foot for some minutes, but if the elevation be the result of muscular effort no diminution is observed. Local muscular action, however induced, causes an immediate, decisive, and proportionate rise in the corpuscles and in the hæmoglobin. Two series of 800 night and morning observations made at bed-time and on rising demonstrated that in the subjects of the experiments the daily work of the waking hours produces a fall in the hæmoglobin value of the corpuscles, and proved that rest and sleep not merely restore the hæmoglobin lost during the working portion of the day, but provide a slight excess beyond it. There is a fall in the chromocytes and hæmoglobin during digestion. Removal from the sea-level to altitudes of several thousand feet is rapidly followed by increase in the number of the red corpuscles, but descent to plains again is equally quickly followed by a diminution in their number. The author discusses at some length the possibilities and extent of error that may lie in these statements. Hot baths lower the percentage of the corpuscles; cold baths raise it. The latter part of the book is chiefly occupied with the consideration of blood-pressure and the circumstances which modify it. Dr. Oliver has devised a hæmodynamometer, with a pad containing fluid, of convenient size, by means of which the blood-pressure in the arteries and veins can be determined with much accuracy, and he has made a large number of observations in healthy subjects on the effects on the blood-pressure of various physiological conditions. Many of the sections have a direct clinical bearing, and we recommend this interesting and very original treatise to the notice of every thoughtful physician.

Maladies du Pharynx: Traité Médico-chirurgical. Par E. ESCAT. Préface par LUBET-BARBON. Paris: Carré et Naud. 1901. Pp. 586. With 150 Illustrations. Price 16 fr.

THIS is a very lengthy work, but notwithstanding this fact a careful study of Dr. Escat's work will certainly repay anyone who is sufficiently interested in the subject to commence it; after that there is no great temptation to put the book aside, for the style is easy and from an English point of view particularly readable. The author has given us a really admirable history of the present knowledge of the diseases of the pharynx and their treatment, but his knowledge of British contemporary work is scanty. Thus the admirable researches of Kelly on pharyngo-mycosis and of Paterson on the fossa triangularis, which may be given as casual examples of omission, are not mentioned. On the vexed question as to whether there is such a condition as rheumatic tonsillitis Dr. Escat exercises a nice discrimination and concludes with a summary of the views of Charrin, that there is no specific rheumatic microbe, but that any pathogenic organism may cause it; that the passage in the blood-stream of such microbes will not alone produce rheumatism, but needs the "acid dyscrasia" to develop rheumatism. The description of the ulcéro-membraneuse angine or angine diphthéroïde de Vincent is particularly useful. Vincent's original work was not noticed by workers in this country, so that we are glad to see prominence again given to it by Dr. Escat.

Although, speaking generally, the various diseases of the pharynx are well classified and described, occasionally the author errs on the side of subdivision. To subdivide, for example, quinsies according as to whether the pus forms anteriorly or posteriorly to the tonsil is to be too precise,

and when it is found that each of the tonsils requires a special detailed description for attacks of the same nature we doubt whether any useful purpose is served by such an arrangement of material.

Amongst the more interesting chapters are those dwelling on the vesicular affections of the pharynx; tumours of the base of the tongue are not so ably treated and there is one chapter that will, we hope, obtain less prominence in any future edition, that on varices of the base of the tongue. Like too many observers Dr. Escat looks upon hypertrophy of the lingual tonsil from the point of view that the condition is the disease, whereas it is a local manifestation of a more general disturbance.

The pen-and-ink sketches are admirable and are mostly by the author. The book will certainly be valuable for reference and should find a place upon the shelves of most medical libraries.

LIBRARY TABLE.

Atlas and Epitome of Gynæcology. By Dr. OSKAR SCHAEFFER. Authorised translation from the second revised and enlarged German edition. Edited by RICHARD C. NORRIS, A.M., M.D. With 207 Coloured Illustrations on 90 Plates and 62 Illustrations in the text. London and Philadelphia: W. B. Saunders and Co. 1900. Pp. 272. 8vo. Price 15*s.* net.—A notice of the second German edition of this book has already appeared in THE LANCET of Oct. 28th, 1899. The present edition is edited by Dr. Richard C. Norris and the translation has been carried out by Dr. Hersey Thomas. It is unnecessary for us to reiterate our opinion of the work. According to the editor's preface it may be considered to occupy a position midway between the *quiz compend* and the more pretentious works on gynæcology. The coloured plates and illustrations are of value and many of them very good. They will, no doubt, be of service to those students who are unable to attend a proper clinic and for use in class demonstrations. Possibly in its English form the book may appeal to a certain number of American or English students. The translator has done his work well and the book contains a large amount of information although not in a very readable form. In these days of advanced gynæcology it is interesting to note that the editor remarks: "The paragraphs devoted to the treatment of various diseases are very conservative, in some instances perhaps too much so for the aggressive surgeon."

Atlas der Nasenkrankheiten. Enthaltend 356 Figuren in 475 Einzelbildern auf 38 Tafeln. (*Atlas of Diseases of the Nose.* Containing 356 Figures of 475 separate drawings in 38 Plates.) Von Hofrath Dr. R. KRIEG. Stuttgart: F. Enke. Glasgow: F. Bauermeister. Parts 3 and 4. Price 6 marks each.—The morbid conditions dealt with in these parts of this excellent atlas, in 10 plates, are: fractures and luxations; hæmatomas and abscess of the septum; atresia and synechiæ; acute, diphtheritic, fibrinous chronic, and hypertrophic rhinitis; polypi, posterior choanal polypi, and polypoid hypertrophies; septal hypertrophies; atrophic rhinitis and rhinitis sicca. The colouring of these plates does not show the fault that was referred to in the notice that was given of the former two; it is most faithful to nature or should we say to life? The careful notes on which the text must have been based seem to exemplify the unwieldy proportions to which our own hospital out-patient departments have grown, for it would be extremely difficult for anyone to find the necessary time to compile such notes in a London clinic. The term "rhinitis sicca" is one too much neglected in books on nasal diseases, as is also the word "operculum" for the anterior extremity of the middle turbinate, both expressions being freely used by Dr. Krieg. Papillary hypertrophy of the turbinates, a point investigated by Wingrave who considers that the condition is incorrectly termed papillary, is nevertheless one which conveys an extremely correct impression of the morbid state, and the illustrations of it given by Dr. Krieg are most instructive. In only one respect are we inclined to find fault with the draughtsmanship and that is in the representation of the cushion of the Eustachian tube, a minor point.

Die Krankheiten der Frauen. (*Diseases of Women.*) By Professor HEINRICH FRITSCH. Ninth revised edition. With 271 Illustrations. Braunschweig: Friedrich Wreden. 1900. Pp. 650. 8vo.—No lengthy notice is required on our part of such a well-known work as Professor Fritsch's Text-book on Gynæcology which has recently appeared in a ninth edition. The new edition contains two new chapters. The first is devoted to Gynæcological Antisepsis and contains a very complete account of the origin and causes of wound infection, its results, its prevention, and the best method of attaining antisepsis and asepsis. For the hands Professor Fritsch recommends prolonged scrubbing with soft soap and water, scrubbing in alcohol, and finally in a 1 in 1000 solution of perchloride of mercury. He also directs that the operator is to brush his hair with a brush dipped in the sublimate solution and is to do the same thing to his beard. The nose is to be washed over and the nostrils swabbed out with the solution and an antiseptic mouth-wash of eucalyptol or some similar substance used. After such a preparation an operator should certainly be in a condition of surgical cleanliness. The use of indiarubber or cotton gloves the author does not approve. The second new chapter is devoted to the After-treatment of Cases of Laparotomy. It deals with the best methods of suturing the abdominal wound, the dressing of the wounds, the after-treatment of the patients, the various complications that may arise, and the commonest causes of death after an abdominal section. The question of the treatment of ileus and the various complications of the operation itself, such as adhesions or the formation of fistulous communications with various viscera, is gone into and their treatment discussed. The book bears evidence of careful revision and all the approved modern methods are noticed, such as the use of steam in the uterus after curettage. A large number of new illustrations have been added, and the book well sustains its reputation as one of the best of the smaller German text-books of gynæcology.

A Text-book of Obstetrics. By BARTON COOKE HIRST, M.D. With 653 Illustrations. Second edition. London and Philadelphia: W. B. Saunders and Co. 1900. 8vo. Pp. 846. Price 21*s.* net.—In our notice of the first edition of this book in THE LANCET of May 13th, 1899, we pointed out that Professor Hirst had written a very good text-book of obstetrics. The fact that it has so soon been found necessary to issue a second edition shows that our opinion has been shared by others. The second edition, which has just appeared is in reality rather a reprint than another edition. No extensive alterations have been made and no revision has been attempted. It is a pity that this has not been done, since the first edition showed certain omissions and contained certain statements to which we called attention and which might well have been corrected or modified. There can be no doubt, however, but that the present issue of this work will meet with as much favour as the last.

How to Keep "Fit"; or the Soldier's Guide to Health in Field, Camp, and Quarters. Compiled by Surgeon-Captain H. WAITE, V.M.S. Aldershot: Gale and Polden, Limited. Price 3*d.* Pp. 40.—This is a very little book of 40 pages, measuring four inches by two and three-quarter inches, but all the same it is a most excellent work, full of practical and simple hints. We are not sure of the advisability of passing a needleful of worsted through a blister and leaving the worsted in (p. 27), but think it better merely to snip the

blister with a clean pair of scissors or open it with a clean knife. Of course, if Surgeon-Captain Waite means that the worsted should only be left in when the patient is not marching his advice is all right, but this point is not made plain. This is the only carping criticism we have to make. We congratulate Surgeon-Captain Waite on supplying the soldier with portable rules of conduct in many cases of surgical and medical trouble that may arise when he is far from expert assistance.

JOURNALS AND MAGAZINES.

La Cirugia Contemporánea.—Mexico is well known to have made rapid strides in various departments under its present esteemed ruler. Amongst other matters its medical literature is growing both in quality and in quantity. For the last three years a Mexican Surgical Society has been in existence and this has now commenced to publish a monthly organ entitled *La Cirugia Contemporánea*, under the editorial charge of Dr. Ramón Macías. The first number, that for Jan. 15th, 1901, contains articles on the Induction of Anæsthesia for Pelvic Operations by the Intra-rachidian and Intra-arachnoid Injection of Cocaine in the Lumbar Region, by Dr. Villarreal, and on a case of Complete Abdominal Hysterectomy for an Enormous Uterine Fibroid, by Dr. Armendariz.

The Cornhill Magazine for March opens with a paper by Mr. C. H. Firth on the treatment of the sick and wounded in the Great Civil War in this country in the seventeenth century, derived largely from unpublished documents. Mr. Firth tells a curious story of a medical man in the army of the seventeenth century who had been impeached for incompetence and neglect. He replied by forwarding a statement favourable to himself which had been signed by grateful survivors, while he pointed out that those who died had died by the Divine will. "What," he pleaded, "is the physician or surgeon but Dame Nature's handiman to be aiding and assisting to her. But the Great God of Heaven has ordained and appointed severall diseases which are incident to men, and they have to attend them one Death, who does and will prevail, notwithstanding the most excellent means which the gravest or wisest physician or surgeon can use in the world, and this we may see by daily experience." The whole article is worth reading. And so is a paper by Mr. Basil Williams, late a gunner in the C.I.V. Battery, founded upon a bundle of Boer war bulletins. These documents mostly consisted of copies of the official telegrams sent to Bethlehem during the earlier days of the war, and show the Boers to have been quite well informed.

ASYLUM REPORTS.

London County Asylum, Horton (Report for the year ending May 7th, 1900).—The asylum was formally opened by Mr. Hubbard, chairman of the London County Asylums Committee, on June 3rd, 1899. Patients were first admitted on June 7th into the three wards which were then ready for their reception. By Oct. 2nd all the wards in succession had been completed and opened. The average number of patients resident during the 11 months covered by the report was 414 and comprised 67 males and 347 females. The total number admitted was 782. Of these 671 were transfers from other asylums. Dr. Frederick Bryan, the medical superintendent, states in his report that "in only 2 per cent. of the transfers was there any probability of recovery," while the proportion of patients with wet and dirty habits was one in five of the total number admitted. The nucleus of the female nursing staff was drawn by permission from the London County Asylums at Colney Hatch, Claybury, Cane-hill, and Banstead. Though built mainly for female patients the Asylums Committee have allowed buildings and accommodation for 110 working male patients. Amongst this class 50 epileptic patients are included, who have been received from the sister asylums of the County of London and are destined for the future "epileptic colony." The conditions at Horton are said to be as nearly akin to those at an epileptic colony as possible and the results are thus far described as quite satisfactory. There has been no serious accident or inquest during the year. One male patient escaped but returned of his own accord the next day. A fire-brigade has been organised and is composed of female attendants, supplemented by two male attendants to work the outside hydrants. "Numerous drills have been held and the brigade is in a satisfactory condition." The health of the institution was uniformly good until the onset of winter when influenza broke out and caused much illness. During February and March, 1900, there occurred many cases of sore-throat, chiefly among the staff, and a number of cases of diarrhœa among both patients and staff. There were also several cases of ulcerative colitis. Nine patients, all females, were discharged during the year as recovered. The deaths amounted to eight, and of these one each was due to epilepsy, cerebral hæmorrhage, peritonitis, renal disease, and phthisis, while three were due to pneumonia. The heating arrangements applied to the asylum worked so well that there was no practical difficulty in raising the temperature to any required degree in the coldest weather. Open fires have been used in all the wards for the sake of ventilation and cheerfulness, and for this purpose the wood on the estate, of which there is an ample quantity, has been chiefly used. The whole of the milk-supply is produced on the estate. There being no bakery bread is obtained by contract *pro tem.* The expenditure for the year for additions, alterations, and repairs amounted to £2812. The Lunacy Commissioners in their report state that the medical case-books, which are prepared on elaborate principles, are very carefully kept.

New Inventions.

BENSON'S JACKETED ICE-BOWL.

WE have received from Messrs. W. A. S. Benson and Co. of Bond-street, a specimen of their jacketed ice-bowl. The illustration shows the appearance of the bowl. The principle upon which it is constructed is that of isolating the interior from the outside air by means of an air jacket. Everyone knows how difficult it is to keep a small supply of broken ice from melting, but from an experiment which we made with this bowl we should say it would prove very useful for the sick room. A small quantity of broken-up

ice was placed in a handkerchief and weighed. The ice and the handkerchief together weighed just over half a pound. The ice and the handkerchief were then placed in the bowl at 9.30 A.M. on Feb. 25th, which was by no means a cold day. The bowl was kept in a dining-room with a fire, the temperature of the room being about 60° F., until 7.30 P.M., when the handkerchief and the remaining ice were again weighed. The loss in weight was just one half—i.e., the handkerchief and ice together weighed one quarter of a pound. The bowl will hold 2 lb. of ice when full and we think it should prove a valuable addition to invalid furniture.

THE LANCET.

LONDON: SATURDAY, MARCH 9, 1901.

Uncertified Deaths.

IT is satisfactory to find that one of the first deputations received by the new President of the Local Government Board consisted of members of the General Medical Council who were appointed to bring under his notice the dangerous state of the law regulating the registration of deaths in cases where there has been no regular medical attendance. The interview was not a public one, but we have every reason for believing that it was satisfactory to the deputation. Mr. LONG has shown himself, in one conspicuous instance, capable of appreciating the gravity that is implied in the occurrence of a largely increased number of deaths from a rare disease; and, what is more, he showed himself capable of the courage to incur temporary abuse and unpopularity in persistent and finally effectual efforts for the prevention of this disease. This is the kind of man to whom the profession and the public may look with some hope for an effort to improve the law guiding registrars in regard to the registration of cases of death where there has been no medical attendance and where no medical certificate is obtainable. The number of such deaths, we need not say, greatly exceeds the number of deaths from hydrophobia and they constitute little short of a scandal in a civilised community where medical help abounds. The whole subject has been well elucidated by the report of the Committee of 1893, of which Sir WALTER FOSTER was the president. We have no intention of going over the evidence adduced before this Committee or even of summarising its principal conclusions. Our object rather is to urge the President of the Local Government Board to legislate on this subject. Such deaths represent carelessness, neglect, want of intelligence, and a deficient respect for human life. They occur mostly in children and in persons advanced in life—classes eminently entitled to the consideration of the legislature. If the present state of the law is not answerable for these deaths it distinctly favours their occurrence by its laxness. It is of no use to blame individual registrars, for undoubtedly the law permits them a certain discretion in the registration of deaths. The General Medical Council in bringing this subject under the notice of the Government is only doing its duty. For years past, through its late President, Sir RICHARD QUAIN, and more lately through Sir WILLIAM TURNER, it has been making representations to different departments of Government with a view to legislation. It has been moved to do so by representations from all parts of the country and even by communications from the Home Office, showing the extent to which deaths are registered on the loosest information, supplied by druggists and unqualified practitioners of all sorts.

The Home Office has lately done good service in directing public attention to one branch of this subject which requires special attention—viz., the unsatisfactory way in which coroners and juries report the result of their inquiries. According to the last published annual report of the Registrar-General, that for 1898, there were in England and Wales 34,000 inquests, but only in comparatively few of these cases is any information given in the verdicts as to the actual cause of death. The Registrar-General complains that the verdicts of coroners' juries are frequently so worded as to obscure the medical evidence given at the inquest concerning the cause of death, and, of course, as we know too well, at many inquests no medical evidence is sought at all. We take this opportunity of publishing an extract, given by the Registrar-General in his report for 1898, from a report of a departmental committee of the Home Office on this point:—"We are so much impressed by the insufficiency and untrustworthiness of the statistics relating to particular causes of mortality which can be gathered from returns of coroners' verdicts that we venture ..... to recommend strongly that some steps should be taken to secure that their verdicts shall lend themselves more readily to clear classification by the Registrar-General."

When we remember that about 6 per cent. of deaths are certified by coroners the importance of this recommendation will be apparent. In Liverpool alone 1021 deaths out of 16,861 in 1899 were the subject of a coroner's investigation. All coroners are not alike careless of the value of their verdicts as sources of information to the Registrar-General. We are glad to know that London coroners are credited with wording verdicts in such terms as to give them some of the value of medical certificates. Even without any change of the law all coroners can do the same when medical evidence is in their hands. We venture to appeal to them to do so, and doubtless in any case the subject will have the attention of the President of the Local Government Board. The great statistical records of the nation, over which we spend so much money, are impaired in their value by the carelessness of coroners. Surely it is little for the country to expect from them that their investigations shall be careful and minute and that their account of a death shall include wherever possible a statement of its cause. We congratulate the General Medical Council on its vigilance in this matter, which we trust will be continued till a much needed amendment of the law is obtained. And amendment should aim at two great points: firstly, to secure that all seriously sick persons shall have such medical attendance as will justify medical certification of the cause of death; and, secondly, failing this, that information of the cause of death, properly and clearly worded, shall be forthcoming from the coroner.

Trials for Murder at the Old Bailey.

DURING the course of last week three persons indicted for wilful murder were tried at the Central Criminal Court. One was acquitted and the others were convicted and sentenced to death. All the cases presented points of medical interest.

The most sensational case was that in which HERBERT

JOHN BENNETT, aged 21 years, was charged with having murdered his wife, 23 years of age, on the beach at Yarmouth on Sept. 22nd, 1900. A writ of certiorari had been issued directing that the trial should take place in London instead of Norwich owing to the strong local feeling that had been evinced against the prisoner. The evidence against the accused was circumstantial, but it was of such cogency as to warrant but one interpretation. BENNETT and his wife, who were married in 1897, had lived at different places and under different names. About July 12th, 1900, Mrs. BENNETT took 1, Glencoe-villas, Bexley Heath, and remained there till Sept. 15th, when she went with her little girl to Yarmouth under the assumed name of HOOD. Her husband during this period was living as a single man at Woolwich, where he was employed at the Arsenal. On the night of Sept. 22nd a man and a woman were observed by two people on the beach at Yarmouth and a cry of "Mercy, mercy," and subsequently groans were heard. Early the following morning the dead body of a woman was discovered. Round her neck a mohair bootlace was tightly tied and this had killed her by strangulation. A coroner's inquisition was held and adjourned to Oct. 29th, when the jury returned an open verdict as the woman could not be identified. On the evening of Sept. 22nd Mrs. BENNETT received a letter bearing the Woolwich postmark. Her clothes had on them the laundry mark "599." These were the clues that eventually led to the elucidation of the mystery. On March 7th, 1900, BENNETT booked passages for Cape Town in the names of "Mr. and Mrs. HOOD." After staying four days at the Cape they returned to England. In the house at Glencoe-villas some articles of clothing were found bearing the mark "599." In Mrs. BENNETT'S possession was a key which unlocked the door of the house. In the summer of 1900 the prisoner became acquainted and eventually engaged to a girl named ALICE MEADOWS who believed that he was a single man. He endeavoured to obtain rooms for himself and her at the house in which his wife afterwards stayed at Yarmouth, but failing to get accommodation he took her to the Crown and Anchor Hotel, where they occupied separate rooms. When arrested BENNETT said, "I have never been to Yarmouth, I have not lived with my wife since January"—a palpable falsehood. A photograph of Mrs. BENNETT and her child which had been taken at Yarmouth showed a watch-chain. Neither this nor a watch were found upon her body or at her rooms; but in BENNETT'S lodgings at Woolwich a chain and a watch which were proved to have belonged to the deceased were discovered after his arrest. It was alleged by the prosecution that the accused took his wife to Yarmouth on Sept. 15th, left her there without going to her intended residence, and returned to Woolwich. As proof that he could not have been at Yarmouth on the day of the murder, Sept. 22nd, he referred the police to the evidence that two fellow-workmen could give, but these persons did not endorse his statement. For the defence an *alibi* was set up. A witness testified that on the evening of Sept. 22nd he was in BENNETT'S company for an hour, but this evidence, instead of being disclosed at an early date, was only brought forward towards the end of the trial. Without questioning the *bona fides* of the witness he may have mistaken the identity of BENNETT and also the date. Moreover, there was absolutely no corroboration, and the accused, who was absent from his lodgings on the night of Sept. 22nd, had not himself referred to the alleged incident. A prisoner on trial for murder is an admissible witness in his defence. His declining to go into the box is not considered to weigh against him, yet in most cases an innocent man would gladly avail himself of the opportunity, and this BENNETT failed to do. As regards the motive for the deed there was abundant evidence. The criminal had treated his wife cruelly and had once been heard to threaten her life. He was living apart from her though near to her, and that without any assigned adequate reason in so far as her conduct was concerned. He was leading a life of misrepresentation, and he had contracted an engagement with another woman who was ignorant of his guilt. His past was one of moral laxity; his present is that of a cold, cruel, convicted murderer.

Of another type of the criminal homicide was GEORGE HENRY PARKER, *alias* HILL, who was arraigned before Mr. Justice PHILLIMORE for having killed Mr. WILLIAM PEARSON in a railway carriage on the South-Western Railway on Jan. 18th, 1901. The evidence in this case was direct or personal, not circumstantial as that which secured the conviction of BENNETT. The deed was done in the presence of a third traveller who was seriously wounded at the same time either accidentally or intentionally. The accused man, aged 23 years, had apparently led a wild, dissolute life. On the day of the murder he took a ticket from Portsmouth to Winchester. At the latter station Mr. PEARSON, who was previously unknown to the prisoner, got into the train. After reading a paper he fell asleep. Soon after passing Surbiton PARKER without any warning shot Mr. PEARSON in the head, and immediately began to rifle his pockets. He threw the revolver out of the train, and on arriving at Vauxhall left the carriage whilst it was in motion and made a determined effort to escape. A Mrs. KING, the witness of the tragedy, raised an alarm, and PARKER, after an exciting chase, was caught. After the murder of Mr. PEARSON he offered Mrs. KING a sovereign, part of the money rifled from the dead man's pocket. Whether he had bought the revolver with the intent of committing murder is doubtful. For some days prior to Jan. 18th he had been drinking heavily, and it may be that he found the instrument a ready agent to carry out an impulsive homicidal act. He was known to be without money, and the "getting some of his own back," as he expressed it, seems to have been the only motive for his act. Whilst in prison he made no attempt to extenuate his guilt, but wrote piteous letters to his father, to the widow of his victim, and to the woman with whom he had been staying at Portsmouth. His counsel argued that "love and drink had driven the prisoner mad." PARKER was convicted and sentenced to death, the judge holding out no hope of mercy.

MAUD EDDINGTON was indicted for the murder of her sweetheart, JOHN BELLIS, at 94, Fleet-road, Hampstead, on Jan. 14th, 1901. The coroner's jury who inquired into the death of BELLIS returned a verdict to the effect that the prisoner intended to commit suicide and that in a struggle

for the possession of the revolver the deceased was accidentally shot. Subsequently to this finding further evidence was forthcoming. The charge at the police court was continued and the prisoner was committed for trial. The evidence, partly confirmed by the statement of the accused, showed that she had felt some resentment against the relatives of the deceased, with whom he lived, for having, as she believed, slighted her and tried to cause an estrangement between her and her *fiancé*, and that this resentment had later been extended to him. The scene of the tragedy was a small closely packed oil and colour shop. On the afternoon of Jan. 14th a tramcar conductor heard the sound of shots. Upon going into the shop he found the deceased in a crouching position, insensible, and bleeding from wounds in the head. In one hand was a string which held some brushes together. A similar bundle had evidently dropped from the other hand. EDDINGTON was lying at full length on the floor with her head towards the door. Between the two stood some steps. At the far end of the counter beyond the man was some blood which had apparently fallen on the floor. Some five feet or so distant, and close to the right of the deceased, was a quantity of blood that had run down from his head. The deceased had two bullet-wounds, one of which passed obliquely downwards from left to right through the upper lip, the other one and a half inches behind the left ear. The shot which had caused the latter had gone through the lateral sinus and lodged against the opposite side of the skull. The prisoner had a graze and some small blisters on the right side of her forehead. Deceased did not regain consciousness before he died six and a half hours after the injury. The prisoner said that she had written a letter to deceased telling him of her intention to shoot herself in his presence. This letter was not discovered, but an envelope in her handwriting and bearing the date she named was found in a locked box belonging to the deceased. A letter which had been written by her at her home she had torn up and thrown into the fireplace. In it were the words "he shall lose everything." The prosecution relied on this as proving malice, but for the defence it was contended that the letter was torn up because it did not truly represent the feelings and ideas of the accused woman. The facts and suggestions put before the jury in seeking for a conviction on the capital charge were: (1) a motive of revenge for neglect and unrequited love; (2) the statement in the letter before referred to; (3) that the steps stood between the two persons; (4) that the clothes of the accused were not disarranged and that there was no blood upon them; (5) that the objects of merchandise in close proximity had not been disturbed; (6) that the man was holding in his fingers the string which tied the brushes together; and (7) that the two patches of blood were some distance apart, with no intervening marks. Lord COLERIDGE for the defence contended that the man was accidentally shot whilst endeavouring to wrest the revolver from her, and the prisoner swore that BELLIS seized the weapon in his left hand and it went off in the struggle. The jury adopted this view and acquitted the prisoner, who pleaded guilty to the further indictment of having fired with intent to kill herself. The judge for this offence sentenced her to 15 months' hard labour, remarking that by her wicked and foolish act she had sacrificed the life of the deceased who had by a praiseworthy act—according to the previous finding of the jury—tried to save her life.

Glasgow's Predicament.

GLASGOW is at present the *corpus vile* on which is being performed an experiment which if interesting to the onlooker is serious to the city. In the spring of last year small-pox was introduced through the port by a sailor whose case proved fatal. Since then the disease has lingered on persistently, no month being entirely free from it, though in one fortnight in August the notifications, which had been about 100 for the month of June, were reduced to three. In November there was another lull, but for December the cases numbered over 70, and, after the new year holidays had had time to show their influence in the way of infection conveyed by crowds moving about all through the city and collecting in places of amusement, the notifications increased to 350 in a fortnight. Since then they have considerably diminished, so that in two weeks in February they were down to 157, though again some increment is reported.

The experiment to which we refer is that of voluntary revaccination. Primary vaccination in Glasgow is well attended to, so far as numbers are concerned, but, in the absence of all official supervision such as exists everywhere in England, there is grave reason to fear that one-mark and two-mark vaccination is much commoner than it ought to be, and that the area even of the one or two marks is not such as would be considered satisfactory south of the Cheviots. In these circumstances revaccination is being advocated by the corporation and its medical officers, and every medical man who cares to undertake the duty is being remunerated for all operations performed on behalf of the sanitary authority. The results are noteworthy. When the offer was first made the people were lukewarm. They did not realise the dangers of small-pox and few took the trouble to protect themselves. Then increase of small-pox was followed by increase of vaccination, so that now it is said that in a population of some 700,000 about 300,000 have been recently revaccinated. Adding to these the children who do not require revaccination—for even poor vaccinations give an appreciable period of protection—there is now only a minority of the inhabitants liable to attack or death by variola. Yet the disease continues to linger on among this minority, and such is the general indifference that every lull in the attack-rate is followed by a lull in the revaccination-rate. It is obvious from these facts that Glasgow has no rooted objection to vaccination. The question is merely one of sufficiency or insufficiency of stimulus. Meanwhile, the epidemic drags on among those who have neglected to protect themselves, and the town council is at its wit's end how to stem the pestilence before it ruins the exhibition, which is to be formally opened by Royalty early in May. This condition of mind gives just the kind of opportunity required for the advocacy of all kinds of alleged remedies. Even the so-called Leicester system, which was dealt with at length in THE LANCET

several years ago,[1] and which proved so terrible a failure in unvaccinated Gloucester, is being trotted out as applicable to the case of Glasgow. Glasgow's plight may be bad enough, but we hardly think that, in an attempt to manage small-pox without vaccination, it is prepared to empty its scarlet fever wards and to distribute scarlet fever all through the community as Leicester did, or to risk such an extraordinary prevalence of that disease as Leicester experienced in its wild efforts to deal with small-pox. And as to revaccination, few lessons are more striking than that which Leicester has to offer Glasgow in respect of the behaviour of small-pox to its hospital staff. Of 40 nurses and attendants at the Leicester hospital six were foolish enough to refuse revaccination when small-pox broke out, and the enlightened borough council had too much respect for the liberty of the subject to think of exercising pressure on its municipal servants. Of these six members of the hospital staff only one needs any protection against small-pox to-day. Five of the six were attacked by the disease and one of the five died. The fact that Glasgow is most keenly anxious to stamp out small-pox in time to save its exhibition need not have the result of making it either badger its officials or lose its own head as to the preventive measures to adopt. There is one measure, and one only, which is capable of dealing with the present emergency. That measure is revaccination. Already a large part of the population is perfectly safe against small-pox. Those who have been successfully vaccinated under the offer of free vaccination, or privately, need have no fear whatever of the disease. They can go where they please and do what they please so far as small-pox is concerned. It is not in their hands that the saving of the situation lies. If the unvaccinated minority wish to protect themselves against small-pox and to prevent the forthcoming exhibition from ending in disastrous failure they can do so at once by accepting the protection which is offered to them. We are glad to learn that an additional staff of vaccinators is being appointed and that the offer is to be pressed home by house-to-house visitation. This should be done systematically and thoroughly. Every vaccinator should have his area mapped out for him and he should not merely make a single call at every house, but should call again and again, if necessary, till he has seen every individual and pointed out the personal responsibility which lies on everyone to take care that he at least shall make himself insusceptible to variolous infection. The town council should make perfectly certain that the staff appointed is amply sufficient, not only to do this work, but to do the whole of it in the course of a single week. If it does so, and if the people rise to a true sense of their individual responsibility in the matter, then we have no hesitation in definitely promising that by about the beginning of April the Glasgow small-pox epidemic will be a matter of history.

In trying to impress these truths on the people of the second city of the Empire, as they are proud to call themselves, we have of set purpose refrained from saying one word about cleanliness and ventilation and limewashing of houses and removal of nuisances and so forth. All these things are excellent, but to prate of them at present might be seriously misleading. It might be thought to mean that there is more than one way of stopping the small-pox which prevails in Glasgow. Cleanliness is good, but it will not stop this epidemic; so is lime-washing, but it will be equally futile for the purpose in hand. By all means ventilate and wash and remove rubbish and filth wherever found; but whether these things are attended to or not, at least make sure of vaccination, and if Glasgow carries out thoroughly this last duty immediately it will have all the rest of the year, undisturbed by small-pox, to attend to other points, while it will be free to enjoy itself over the glories of what is intended to be a great world's fair, but which the great world will certainly shun if small-pox continues to prevail. Later Glasgow may well consider whether vaccinal protection of its adult population from small-pox should not be carried on regularly when the time of life arrives at which every youth should be revaccinated and whether some steps should not be taken to see that the primary vaccination of infants is done thoroughly as well as systematically. These are questions for the national legislature, but Glasgow has its own share of representation and has never been backward in giving voice to its own demands or even to the needs of Scotland which in this respect are identical with its own.

[1] THE LANCET, Nov. 20th (p. 1341) and 27th (p. 1407), and Dec. 4th (p. 1475), 1897.

The Metropolitan Authorities, the Local Government Board, and the Water Companies.

THE metropolitan water companies have withdrawn the regulations in regard to water fittings for which they wished to obtain the sanction of the Local Government Board. The regulations ought never to have been proposed by the companies. When they were submitted to the President of the Local Government Board he should have declined to sanction them. No public inquiry concerning them was needed. The inquiry has caused great expense to the London water consumers. Mr. LONG acted thoughtlessly in respect of the interests of the people of London, for he appointed the Water Examiner, an official whose duty it is to safeguard the interests of the water consumers and to note and report upon the delinquencies of the water companies, to conduct the inquiry. In consequence of the loss of the officer who was their natural protector the representatives of the Corporation of London, of the London County Council, and of the metropolitan boroughs were practically compelled to employ counsel to look after their interests in the inquiry. We fear that Mr. LONG does not even yet appreciate the hardship which he has inflicted on the people of London, for in answer to a question asked in the House of Commons he said that the regulations proposed by the water companies were the practical outcome of the recommendations of Lord LLANDAFF'S Commission, and that therefore the metropolitan boroughs and the other bodies which opposed the regulations ought rightly to pay the expenses which they had incurred in that opposition. We do not think that the people of London will agree with Mr. LONG in this contention, and the fact that all the representative bodies interested were at one in opposing the regulations will, it may be hoped, suffice to show that

although Londoners are a patient people there are limits to the measure of their endurance.

The election of the new members of the London County Council has fortunately occurred at the present juncture and there is no occasion to regret the turn which affairs have taken. The Moderate party have met the fate which they deserved and have been thoroughly beaten. The fact that candidates at the last moment changed the name of the party from "Moderate" to "Conservative and Unionist" has certainly been of no service to them. Electors are not so foolish as to suppose that a change of name means a change of nature. Party politics have no connexion with municipal government. In their policy in regard to water-supply the Moderate party have unfortunately been dominated by some members of the London Municipal Society who have a very close connexion with the business of the metropolitan water companies. This fact has probably not been without effect in deciding the casting of many votes at the late elections. The Progressive party of the Council have now such a large majority that they will have no difficulty in passing any measures which seem good to them. We hope that their power will be wisely used. In the past the Council have failed to be of service in matters concerning water-supply. They have not used the means of control which they possessed over the metropolitan water companies, but they have spent, and not always wisely, large sums of money on agents and surveyors. The expenditure has produced a large quantity of printed matter. The water consumers, however, unfortunately have not been benefited; they have, indeed, been out of pocket by these transactions. It has been conclusively shown that the scheme propounded by the Council for the compulsory purchase of the metropolitan water companies' undertakings could not be advantageously carried out in the interests of the purchasers. It is to be hoped that the Council will waste no more of the ratepayers' money this year in useless or harmful Parliamentary proceedings.

The metropolitan boroughs are to be congratulated on the part which they played in causing the water companies to withdraw their proposed regulations. We regret the expense to which they were put by Mr. LONG'S action in the matter, but, on the whole, we hope that much good will result from the fact that thus early in the history of the boroughs their representatives have had their attention forcibly called to one of their most important duties. To the metropolitan borough councils we chiefly look for the initiation of improvements in the water-supply. Up to the present time the county councils and the vestries have failed to exercise due supervision over the water companies. We confidently trust that the interests of the water consumers will in future be more carefully guarded, and in order that this may be done it will be well for the councils to encourage the burgesses to appeal to their engineers in all cases of difficulty. As a rule, the people of London, and especially the poor, have wished to be interfered with as little as possible in their domestic arrangements, but when they find that help is to be had they will readily avail themselves of it. Up to the present time it has never been tendered to them.

The boroughs will, we hope, obtain and record the important facts in regard to the water-supply in the districts over which they exercise control. Amongst the questions which will require attention it may perhaps not be out of place to suggest some which are of interest:—

1. Has every house a constant water service, and is the pressure at which water is supplied sufficiently high to ensure a supply for the upper storeys of the house?

2. Has the water been efficiently filtered? A daily examination at least of the colour of the water should be made in the case of each company which gives a supply in the borough. Should the water be turbid or of brownish colour a complete chemical examination should be made.

3. A plan should be made of the mains of the water company and their depth below the surface of the ground should be ascertained. Should any of the mains be placed at an insufficient depth notice should be given to the company, so that in case of frost the company should be liable for damage if through their default in so improperly laying the main the water should fail.

4. In the case of excavation in the streets a note should be taken as to the condition of all the mains thereby exposed. It is believed by some engineers that more water is wasted by escaping from the mains of the companies than is lost by defective fittings in private houses. Definite information on this matter would be of great value.

Annotations.

"Ne quid nimis."

MEDICAL AND SURGICAL AID FOR SICK AND WOUNDED OFFICERS.

THE first report of the Duke of Abercorn's Committee, dealing with the work done during the year 1900, was presented for adoption and duly adopted at Hampden House, Green-street, W., on Wednesday, March 6th. The indisposition of the Duke of Abercorn prevented his attendance, and Mr. P. Lyttelton Gell presided and moved the adoption of the report. The report commences by recapitulating the statements contained in the Duke of Abercorn's letter which appeared in THE LANCET of Jan. 13th, 1900, p. 133. It goes on to state that so far back November, 1899, offers of hospitality and of medical assistance reached the War Office not only from the United Kingdom, but also from Madeira, France, Belgium, Italy, Switzerland, Germany, Austria, and Egypt. Many leading consulting physicians and surgeons offered to place their professional skill at the disposal of invalided officers if they were recommended by some accredited authority. To render such generosity available the committee was formed by the Duke of Abercorn and was inaugurated at Hampden House on Jan. 22nd, 1900. The consideration of the conditions upon which the assistance of the professional members of the general committee might be rendered was referred to a sub-committee consisting of Sir Thomas Smith, F.R.C.S. Eng., acting as chairman, Sir Thomas Barlow, M.D. Lond., Mr. Christopher Heath, F.R.C.S. Eng., Mr. Edmund Owen, F.R.C.S. Eng., Surgeon-General J. B. Hamilton, and Dr. Dawson Williams. This committee drew up a report according to which the following regulations were adopted at a meeting held on Feb. 7th, 1900:—

1. Certain physicians and surgeons have definitely agreed to give their services to invalided officers without remuneration, but medical men in general practice who may be in frequent attendance on the clients of the committee will be remunerated at customary rates.
2. Chloroformists and assistants at operations shall be paid the usual fees.
3. All applications for help in connexion with this fund shall be made through the Executive Committee.
4. The Executive Committee shall decide to what nursing-home or

private house each patient is to go, and who shall be invited to attend him.

5. Patients shall be allotted to surgeons or physicians on the General Committee, as far as practicable, in rotation.

6. The Executive Committee shall notify to patients when they are fit to be discharged, either on the recommendation of the medical or surgical attendant, or at the request of the householder.

7. Operations shall, if possible, be performed in nursing homes rather than in private houses.

8. The Executive Committee shall decide where convalescents shall go.

9. The services of electricians, rubbers, and nurses, if recommended by the medical man in attendance, shall be paid for at the discretion of the Executive Committee.

10. The cost of instruments and apparatus recommended by the surgeon in attendance shall be met by the Executive Committee in cases where such assistance appears to them to be necessary.

11. These regulations are subject to revision from time to time as experience of the working of the system is gained.

The Executive Committee was constituted as follows:—The Duke of Abercorn, K.G. (President), Mr. P. Lyttelton Gell, Surgeon-General J. B. Hamilton, Dr. Donald W. C. Hood, Mr. F. A. Johnston, Mr. J. H. Morgan, Colonel J. Stacpole, Colonel on the Staff, and Lieutenant-Colonel H. Charlesworth, R.A.M.C., representing the committee at Southampton; and the Hon. Arthur Brodrick, honorary secretary and treasurer. The duty of making preliminary inquiries into the condition of every applicant was undertaken by Dr. Donald Hood and Mr. J. H. Morgan, and their places were filled during August and September by Dr. Henry John Davis and Mr. T. H. Kellock. Hampden House was on the invitation of the President made the headquarters of the fund, and office accommodation, clerks, and the like were supplied by the British South Africa Company. The Executive Committee desire to pay a warm tribute to the unremitting devotion of Mr. Brodrick. Over 250 cases were considered and of these nearly all received assistance. Of these about 100 were medical cases and 120 surgical, while the remainder were chiefly convalescents. The majority of the medical cases reported upon by Dr. Hood were cases of enteric fever, dysentery, or chronic rheumatism. Except a few who are still under observation, these patients have been satisfactorily restored to health. Of the 120 surgical cases reported upon by Mr. Morgan 39 were operated upon in nursing-homes by surgeons on the General Committee, and the x rays, used under the direction of Mr. Mackenzie Davidson, were found to be of the greatest service. A large number of patients were treated by massage and electricity, while three officers were supplied with artificial limbs under Mr. Morgan's personal direction. There were only two deaths among the whole number of the committee's patients and of these two one was due to incurable disease unconnected with the present war. In addition to officers of the regular army, officers of the Royal Marines, the Imperial Yeomanry, and the colonial forces have also been benefited by the fund. A few of these applications came from officers serving in China or in West Africa. No applications were received from officers of the Royal Navy or from volunteers, though it should be understood that all the advantages of the fund were equally open to officers of these services. Many officers received treatment without applying to the fund through the inexhaustible kindness of members of the medical profession and the hospitality of private persons. The Executive Committee tried to carry out the principle of contributing only towards the exceptional expenses incurred exceeding those which an officer would be unable to defray under the ordinary circumstances of his position. But while pursuing this principle the committee were conscious that many cases might exist in which, though the sufferers were eminently entitled to assistance, yet they might be unwilling to apply. In dealing with such cases the committee were constantly aided by the tactful coöperation of Georgina Countess of Dudley. The generous hospitality of Mr. George Donaldson and of Mrs. Wagg at Brighton and of Mr. George Bullogh in the Island of Rum is acknowledged with special gratitude. The report was seconded by the Commander-in-Chief, F.M. Earl Roberts, in a brief speech, and adopted without a dissentient voice. It tells a tale of most valuable work excellently done.

THE BENNETT CASE.

JUDGMENT has been done in the case of one of the most calculating and cold-blooded murderers on record who within a week or so will pay the penalty for his crime with his worthless life. The trial was one remarkable in many ways. Besides the passions which it aroused making it necessary that the venue should be changed, besides the details which came out, of the existence of a very curious set of people, the proceedings showed that among a certain section of English journals the old-time regard for truth and honour is at a vanishing point. Nothing could have been more damning than the words of the Lord Chief Justice as to the conduct of such journals. The liberty of the press as of the subject is a thing not lightly to be thrown away, but liberty is not licence. Everyone of those responsible for the shameless misuse of their position should be made to answer for his conduct and to pay for it, either by imprisonment or else by a fine so heavy that the process of catching half-pennies by pandering to the worst passions of human nature should be proved to be not worth the risks attendant on such conduct.

URGENT OPERATIONS IN HOSPITALS.

AN inquest was held on Feb. 7th at the North Cambridgeshire Hospital, Wisbech, by Mr. Coroner Welchman upon the body of Joseph Wallis, a farm hand, who died in the hospital on Feb. 6th. Evidence was given that on Feb. 1st deceased was kicked in the abdomen by a horse. He complained of some pain, but went on with his work for about half an hour, after which he went indoors. Mr. T. H. Hills was called and attended deceased up to Feb. 2nd, on the evening of which day the patient was admitted to the hospital. Dr. C. H. Gunson, the house surgeon, said that on admission there was no discolouration or abrasion, but there was a slight distension on the right side of the abdomen. By the evening of Feb. 5th deceased had become very much worse and an operation had to be performed. Mrs. Wallis was not communicated with with regard to the operation, but she knew of the patient's serious condition. Deceased had agreed to the operation himself. The cook at the hospital, who was deceased's niece, said that she had written to Mrs. Wallis on the evening of Feb. 5th, but she said nothing about an operation. The jury returned a verdict of "Accidental death" and added as a rider, "That in the opinion of the jury the deceased's relatives should have been communicated with before the operation and that in all serious cases in future the relatives ought to be communicated with." At a meeting of the hospital committee held on Feb. 19th the rider was discussed and the committee unanimously resolved that they approved of the steps taken by the medical officers and that they were convinced that to have delayed the operation in order to communicate with the patient's wife would have been culpable on the part of the medical officers and prejudicial to the patient. The committee, while anxious to consult the nearest relatives before an operation, as is invariably done when possible, could not accept the rider but preferred to trust in the judgment of the medical officers. It was also resolved that the resolution, the verdict, and the rider should be forwarded to the Home Secretary in order that he might inquire into the matter with a view to the removal of the rider from the records of the coroner's court. We are glad to see that the hospital committee made such a firm stand, for it is obvious that the rider of the jury if acted upon would in many cases render hospital treatment

useless. Cases are constantly arising where immediate operation offers the only chance of life and where it may be impossible to communicate with the relatives who in the country especially may live miles away and who even if a messenger is sent may be out on his arrival. We can only hope that the Home Secretary will decide that this very foolish rider shall not be allowed to remain on the records of the coroner's court.

THE MINERAL WATERS OF FRANCE.

THE society for promoting the study of the natural mineral waters existing in various parts of France intend during the present year to organise an excursion to visit the health resorts in the south-eastern parts of that country. It is intended to include in the projected tour Evian, Divonne, St. Gervais, Sanatorium d'Hauteville, Aix-les-Bains, Marlioz, Challes, Salins Moutiers, Brides-les-Bains, Allevard, Uriage, La Motte, Vals, and Lamalon. Following the successful precedents of former years the excursion is to have the advantage of the presence of Professor Landouzy, who will at each of the places visited give a brief account of the nature and therapeutic value of the waters found there. The excursion is to take place during the first fortnight in September. We are informed that those of previous years have proved highly satisfactory. English visitors were received with every courtesy, and the holiday was pleasant, instructive, and the reverse of expensive. Particulars of the forthcoming tour may be obtained from Dr. Leonard Williams, 8, York-street, Portman-square, W.

INSANITY IN TWINS.

DR. A. CULLERE, medical superintendent of the asylum at Roche-sur-Yon, has published an interesting account of insanity in twins in the February number of the *Archives de Neurologie* and has given the records of two new cases. He first asks the question, "Is there a special insanity affecting twins?" (*folie gémellaire*), and answers the question as follows. The special predisposition of twins renders both liable to one common form of insanity. The attack is characterised by the three following features: first, simultaneity of the attack and more or less parallelism of the symptoms at the onset; secondly, analogous course and similarity of termination of the malady; and thirdly, the spontaneous origin of the disorder arising from a common organic basis. When these features are present it is possible to recognise in the insanity of twins an origin in degeneracy, for the common basis of development is usually some form of congenital mental debility or even imbecility. The onset of intellectual disorder is often early, it is characterised by variability of mental symptoms (polymorphism), and it has a tendency to pass into premature mental enfeeblement (dementia præcox). Dr. Cullere is inclined to view the very fact of twinship (*gémellité*) as itself an indication of inferiority, and quotes to this effect the experiences of Keim, Fournier, and Jonathan Hutchinson that twins are relatively common in the offspring of tuberculous and syphilitic parents. A strong neuropathic heredity is almost always met with in the genealogical history of insane twins, and this even when but one of the twins is the subject of insanity. Thus in six out of seven such cases the parental taint appeared in the form of phthisis and lithiasis, phthisis and nephritis, insanity of the litigious paranoiac form, moral imbecility, or other nervous defect. The following cases illustrate insanity in twins. Case 1.—The patients were twin sisters, firstborn; the father was alcoholic and of precarious health. The mother was in normal health but bearing a neurotic taint from alcoholic and phthisical grandparents. The twin sisters were backward in speech and intelligence but otherwise enjoyed good health. They menstruated at the age of 16 years. One became a seamstress and the other a domestic servant. At about the age of 17 years both began to show signs of mental confusion, irritability, and violence of temper. Both suffered from terrifying dreams and nightmare. They grew worse and one of them had to be placed in an asylum, the chief symptoms being maniacal excitement and irresistible impulses to violence and murder, which continued with remissions and intermissions for some years. She then became mentally enfeebled. The other sister exhibited similar symptoms of mania and murderous impulses and had intermittent attacks of frenzy mingled with incoherent screaming, cursing, and crying; she made several attempts to dash out her brains. She gradually subsided to a quieter condition after a few years and exhibited a less degree of mental enfeeblement than did her sister. Both sisters exhibited facial asymmetry. Case 2.—The patients were twin brothers, the sons of a hypochondriacal man whose sister was insane. The twins were born at the fifth confinement and were during childhood noted to be weak-minded. Their mental disorder began to develop at about the age of 20 years. Both had a marked propensity to alcoholism; one became a soldier and while on military duty was seized with an attack of mental confusion and excitement. After this he had repeated maniacal attacks, and drinking always brought them on. He then developed delusions of a grandiose nature. The other at the age of 20 years had subacute delirium and passed into a stage of stupor. He subsequently developed delusions of persecution of a persistent kind.

THE VALUE OF SALINE ENEMATA IN COLLAPSE AND IN URÆMIA AND PUERPERAL ECLAMPSIA.

THE great value of saline enemata in a number of conditions, of which the most important are severe hæmorrhage, uræmia, and puerperal convulsions, is not sufficiently appreciated. One reason for this appears to be that intravenous or subcutaneous saline injections are much more recommended by authorities. Why they neglect to enforce the value of the much simpler, far more generally available, and equally efficacious method of rectal injection we cannot imagine, unless it be that its very simplicity has caused them to overlook it. In the emergencies of general practice instruments for intravenous or subcutaneous injection will often be wanting and can be procured only after a loss of valuable time. In an annotation [1] we referred to the value of saline injection in the hæmorrhage of typhoid fever, and *à propos* of this Mr. W. M. Gabriel [2] pointed out the advantage of the less cumbrous method of rectal injection over intravenous. He related the case of a man *in extremis* from repeated intestinal hæmorrhages in typhoid fever. Other means having been exhausted, a pint of hot saline solution was injected into the rectum and had to be retained artificially owing to the atony of the sphincter. After several minutes a faint radial pulse was perceptible and recovery followed. In the *Journal of the American Medical Association* of Feb. 9th Dr. T. B. Greenley has related two cases which show the value of saline enemata in collapse from hæmorrhage. He was called to a woman suffering from hæmorrhage due to abortion at the end of the second month. She was collapsed, pulseless, and very pallid. As soon as he could have it prepared he injected nearly half a gallon of hot salt solution into the bowel and kept it there by pressure on the anus for one and a half hours. The pulse returned and turpentine and ergot were given every two hours. The hæmorrhage ceased and the ovum was expelled. Next day the patient was doing well. In a second case a woman was flooding in the third

[1] THE LANCET, Jan. 14th, 1899, p. 112.
[2] THE LANCET, Jan. 21st, 1899, p. 190.

month of pregnancy; she was nearly pulseless and her heart was beating very feebly. The same treatment was adopted and clots were removed with the fingers from the uterus. She rallied in less than an hour, when the hæmorrhage was completely arrested. In another case a child, aged eight months, was suffering from cholera infantum. For three days there had been vomiting and purging, and food had been kept on the stomach only 10 minutes. The "small vibration" of the pulse at the wrist could not be counted. Nearly a pint of salt solution was injected into the bowel and retained by pressure. In less than an hour the pulse improved. A teaspoonful of milk was then allowed every 15 minutes. The child ceased to vomit and recovered in a few days. Dr. Greenley comments on the astonishing rapidity with which the injection is absorbed when the blood-vessels are empty. He uses salt solution at a temperature of from 110° to 115° F. and of the usual strength (a drachm to the pint). He rightly points out that in such cases transfusion would be attended with greater risk and entail much trouble and that there is no time to send for instruments or further medical assistance. Possibly in extreme cases, as Mr. Thelwall Thomas insists,[3] nothing short of intravenous injection is of use, though we are inclined to think that cases of hæmorrhage in which an intravenous injection would save life and a rectal injection would fail are few if, indeed, any. Moreover, the former operation is often impracticable or, if practicable, involves the loss of invaluable time in preparations, sterilising instruments, &c., which more than counterbalances any possible advantage of intravenous over rectal injection. The *rationale* of this treatment was explained by Dr. William Hunter in his lectures at the Royal College of Surgeons of England in 1889. In fatal hæmorrhage death results because the heart is not supplied with sufficient fluid upon which to contract; saline solution supplies the necessary fluid. This treatment should have precedence of all others, though such may also be adopted. Exactly the same applies to the treatment of uræmia and puerperal eclampsia. In these conditions the all-important indication is to re-establish the renal secretion and not, as is often thought, to endeavour to stop the convulsions by chloroform, bromide, morphia, &c. (That these measures are of some value is not denied.) Now the introduction of saline solution into the circulation is the most trustworthy of all methods of re-establishing the renal secretion and the simplest means of accomplishing this is by saline enemata. In addition barley water or other diluents may be given by the mouth—as drinks if the patients can swallow, by the stomach pump if they cannot. If this rational treatment, which aims at removing the cause of the uræmia or eclampsia, were generally adopted, instead of the mere treatment of symptoms by sedatives, we believe that many valuable lives would be saved.

THE INCREASE IN APPENDICITIS.

IN a discussion at the meeting of the Paris Academy of Medicine on Feb. 19th M. Lucas-Championnière expressed the opinion that appendicitis is rapidly increasing in frequency and he is inclined to attribute this to an increase in the causes of intestinal infection, the chief of which he considers to be the eating of meat in large quantities. In this way he explained the fact that appendicular affections are most common in countries where much meat is eaten, such as England and the United States. The explanation of the increase of appendicitis need not be considered until it has been certainly shown that an increase has occurred. M. Lucas-Championnière thought that if appendicitis had formerly been as frequent as at present the fact would have been noted by observers. This does not necessarily follow, for until appendicitis was recognised to be the lesion present in most cases called "typhlitis" and "perityphlitis" it was hardly ever diagnosed till the post-mortem examination. A large proportion of the cases formerly called "idiopathic peritonitis" must have been cases of appendicitis. That ulceration and perforation of the vermiform appendix might occur was known many years ago—for instance, in 1856 Dr. Lewis, in the *New York Journal of Medicine*, collected 47 cases of perforating ulcer of the appendix—but the name "appendicitis" is of comparatively recent origin. There is, in fact, but little, if any, reason for thinking that a real increase has occurred in the number of cases of inflammation of this process, but the transference of many of these cases to the surgeon and the great increase in recent years of laparotomy for obscure abdominal conditions have led to an apparent increase.

[3] THE LANCET, Nov. 26th, 1898, p. 1390.

THE CHEST PANTOGRAPH.

IN the New York *Medical Review of Reviews* of Jan. 25th there is an illustrated description of an instrument devised by Professor Winfield S. Hall of the North-Western University Medical School, by the use of which he claims that chest-contours can be accurately measured and recorded. It has the usual four jointed arms of a pantograph, but differs from the ordinary pantograph in having attached to it at the angle most remote from the fixed point a brass or steel semicircle which lies altogether outside the parallelogram of the frame and has its diameter in a line with one of the arms forming the angle there. The extremity of the semicircle most remote from the pantograph serves as the tracing-point. The object of the semicircular arm is, of course, to permit the tracing point to be carried round the thorax and the semicircle can, when required, be rotated round its diameter so as to reach both sides of the chest. The seat upon which the patient sits is adjustable for height and has back and side supports for the waist, so that the upper part of the body is not allowed to move from side to side, distorting the contour. The patient sits beside a table on which the fixed point of the pantograph is pivoted in the usual way and the contour is drawn by the writing pencil on paper ruled in squares of one millimetre. Professor Hall places the writing pencil so that the contour drawn is one-fifth of the contour copied, giving a size convenient for reference and preservation. He prefers his instrument to the apparatus devised in Sweden for the same purpose. The diameter of the semicircular arm is 40 inches. The parallelogram is, of course, equilateral; the length of the sides is not stated, but it is apparently about 54 inches.

THE "SAINT-PIERRE."

AT the end of a brief summary of the medical transactions in Newfoundland waters carried out under the auspices of the Société des Œuvres de Mer during the year which has just expired, Dr. Bonnafy makes the welcome announcement that in order to replace their present hospital ship the *Saint-Pierre*, which is a sailing vessel, the authorities of the association have caused a steamer to be constructed with special fittings for medical and surgical work amongst the fleet of French ships engaged in the cod-fishing industry. Although dependent for progression on sails alone the *Saint-Pierre*, which left St. Malo last April in charge of Dr. Bonain of the French naval service, was nevertheless able within the space of six months to complete five cruises embracing the whole of the fishing ground. In the course of these continuous peregrinations, during weather that sometimes was calm but more often "dirty," communication was established with 301 fishing

boats, when all slight cases of sickness or injury among the crews were duly attended to on board their own craft, the more serious cases, 88 in number, being transhipped into the *Saint-Pierre* for treatment. The average duration of each of the latter cases was a fraction under seven days, but the time spent on board by 27 additional patients who were carried back to France at the end of the season is not included in this calculation. In addition to affording medical aid the officials of the hospital ship also undertook post-office duties, delivering 7261 letters among the fishers and receiving 4020 in return for conveyance to families and friends at home. Ten sailors adrift in four dories were picked up and rescued by the *Saint-Pierre* during her cruises. This remarkable fact exhibits in a very sombre light the difficulties and dangers of the life led by the cod-fishers. Every year there are numerous victims, sometimes more and sometimes less, swallowed up by the impenetrable fogs. In the season of 1899 the number saved by the hospital ship was 20; in the previous year it was 10. Among the 115 admissions the chief diseases were as follows: typhoid fever, 15; bronchitis, 14; pulmonary tuberculosis, five; scurvy, seven; nephritis, six; rheumatism, six; pleurisy, three; alcoholic gastritis, two (10 slighter cases were treated on board the patients' own ships); phlegmon, nine; ulcer, 10; fracture and dislocation, seven; *embarras gastrique*, four; wounds, &c., 12; and venereal affection, one.

SYMPTOMS OF CEREBRAL SYPHILIS.

DR. JAS. MACBRIDE draws attention in the *Journal of the American Medical Association* of Feb. 2nd to the fact that in the majority of cases of cerebral syphilis the mental symptoms are largely of a negative kind—e.g., loss of mental power and of self-control, impairment of memory, loss of interest in surroundings, and a liability to undue emotional disturbances such as anger and crying. Attacks of loss of speech or of sight ("blind spells") occur not uncommonly at an early stage and demand careful diagnosis, as an error may be serious. Thus one patient suffered from "blind spells" which had been erroneously diagnosed and treated as biliousness until it was found that they were due to cerebral syphilis. Delusions, if present in an early stage, are incongruous and of quickly-changing character, and never deeply affecting belief or conduct. There is general confusion of mind. Drinking and drug habits are prone to be indulged in at this stage, the patient seeking a narcotic or anodyne to relieve his mental distress. The lapsing into such habits at this stage also betokens a loss of mental balance and self-control. Mental disorder may appear in the syphilitic subject very soon after the appearance of secondary symptoms; one such case has been recorded where it developed within three months of infection, and in a case observed by Dr. MacBride the interval was six months. It is found that syphilitic inebriates are particularly liable to commit suicide after a drinking bout. Syphilitic insanity sometimes closely resembles general paralysis, but has more frequent focal symptoms—e.g., paralysis of one or more cranial nerves, local cerebral hæmorrhages or softenings with Jacksonian convulsions, and sometimes recovery may result, though in true general paralysis recovery probably never takes place. Charcot long ago called attention to a characteristic of syphilitic brain disease—viz., irregular and temporary attacks of aphasia, a condition which is correlated with atheroma and disease of the cerebral arteries. In one case noted by Dr. MacBride when the patient took a long walk or played tennis he had transient spasm in the right arm and leg followed by temporary paralysis. "If he talked for any length of time he developed a temporary ataxic aphasia, showing what little reserve power was left to the brain as the blood-stream was gradually shut down" by atheroma. In syphilitic meningitis there was always cortical arteritis. According to its location there were symptoms of headaches, neuralgias, and oculo-motor and other palsies of cranial nerves. The mental symptoms varied from stupor to active delirium and furious violence. Gummata produced local symptoms, and while predisposition had much to do with determining a special encephalopathy following syphilis, yet it was probable that a special virulence of the syphilitic virus was sometimes the cause, as in the case mentioned by a French writer of a woman who infected five youths with syphilis, with the result that three of them died from general paralysis, while two suffered from cerebral syphilis. Syphilis of the brain occurring after 10 years from the date of infection was rare. M. Fournier mentioned a patient who was entirely well for 17 years after syphilitic infection and then died from cerebral syphilis.

THE FIFTH TRIENNIAL INTERNATIONAL CONGRESS OF PHYSIOLOGISTS.

THE fifth Triennial International Congress of Physiologists will be held at Turin this year from Sept. 17th to 23rd. The University Institute of Physiology, under the direction of Professor Angelo Mosso, will be placed at the disposal of the Congress. In connexion with the Congress an exhibition of apparatus will be open from Sept. 14th to 23rd; to it the Marine Biology Station of Naples will contribute a collection of marine forms of animal life useful for comparative physiology. Those desirous of contributing to the work of the Congress should communicate with Professor Sherrington, general secretary for the English-speaking countries, Thompson-Yates Laboratories, the University College, Liverpool.

EPILEPTOID TREMBLING: A SYMPTOM IN PULMONARY TUBERCULOSIS.

IN the *Revue Neurologique* of Jan. 15th an interesting communication upon this new and little known clinical sign of "epileptoid trembling" in pulmonary tuberculosis appears from the pens of M. Léopold Lévi and M. Follet. Epileptoid trembling as a symptom observable in phthisis is far from being exceptional; it is now known to clinical observers, though no mention is made of it in the text-books of medicine. Out of 50 cases this symptom was ascertained to be present in nine instances. The following is a typical case. A young woman, aged 22 years, suffered from pulmonary tuberculosis and had a cavity in the apex of the right lung. When she put her foot on the ground a jerky spasm of the flexors of the ankle came on and was followed by clonic movements if pressure against the ball of the foot was maintained. Ankle clonus and patellar clonus were easily elicited. There was no local muscular atrophy and cutaneous sensibility was everywhere normal. Her occupation was that of a compositor, but she seemed quite free from symptoms of lead-poisoning. She was free from symptoms of hysteria and of epilepsy, but had suffered from attacks of indigestion, with headache, disturbances of vision, nausea, and epigastric discomfort. The visual disturbances occasionally took the form of hemiopia. A second case was similar to the above. Of the seven other cases two were males and five were females, the ages varying from 18 to 30 years. Three of the latter had a previous history of typhoid fever, while another was at one time addicted to absinthe-drinking and appeared to be an unstable, emotional, neurotic person, subject to cramps of the great toe and vaso-motor troubles of the feet. The fifth was nervous and was occasionally subject to hysterical fits. M. Lévi and M. Follet point out that none of their cases suffered from paresis, amyotrophy, trembling, or myoidema. It was not possible to elicit the reaction of debility or of cachexia in the muscles. The

existence of pulmonary cavities in all the cases in which the symptoms of epileptoid clonic trembling were observed suggests the question whether such symptoms were due to the action on the spinal cord of toxins produced by the micro-organisms in the lungs. M. Lévi and M. Follet do not believe that the symptoms belong to the class of phenomena known as idio-muscular contraction. While admitting that "epileptoid trembling" indicates a condition of excitation of the pyramidal tracts which, however, does not result in degeneration of the nerve fibres, they incline to the belief that the trembling is due to the action of toxins of tuberculous or para-tuberculous origin. The symptoms, in short, indicate the presence of the "mixed infection" which supervenes in the progress of pulmonary tuberculosis.

ENDOWMENT OF A LECTURESHIP AT GUY'S HOSPITAL.

IT was announced a few months ago that a generous donor had presented to the governors of Guy's Hospital the sum of £6000, the interest of which was to be used for the purpose of medical education and research. The question of the best means of utilising the benefaction was referred to the staff of the medical school and with the approval of the donor it has been decided to endow a lectureship in experimental pathology. The holder of the appointment will be known as the Gordon lecturer, to commemorate the fact that the endowment is due to the generosity of Mr. Robert Gordon. It will be a matter for general satisfaction that so important an addition has been made to the extremely small number of endowed lectureships in connexion with medical education in London. It is particularly appropriate that this addition should have been made at the moment when the metropolitan medical schools have become affiliated to the University of London. It is confidently hoped that the reconstitution of the University may do much to improve medical education in London, but without money substantial reforms are with difficulty carried out. If Mr. Gordon's example is followed by other wealthy men who appreciate the great benefit to mankind of the increase and dissemination of medical knowledge, the Faculty of Medicine of the University of London will approach its labours in the cause of reform with a light heart.

COLORIMETRY IN WATER ANALYSIS.

THERE is little doubt that with greater attention to colorimetry this convenient method of diagnosing the quality of water for drinking purposes will become more accurate and reliable. The colour of water itself is some indication of its purity and origin while the approximate determination of the degree of turbidity is valuable in the same direction. The value of observations on colour and turbidity depends largely upon the standards adopted. The standards must of course be unvarying and uniform. It may be noticed that in the monthly reports of the chemists to the London water companies the colour of the water is recorded in degrees of brown and blue based respectively upon solutions of standard bichromate of potassium and copper sulphate. Both these salts are permanent and are therefore very convenient and accurate for the purpose. Blue, of course, is the normal colour of pure water, the degree of brown indicating more or less organic matter. It has been shown that the degree of brown varies directly with the proportion of organic carbon in water. In America the determination of the yellowish-brown colour of water has been based upon a standard of Nesslerised ammonia. But better than this standard is that obtained by mixing solutions of a definite strength of potassium platinic chloride and cobaltous chloride. This standard appears to be perfectly uniform and practical and accurate for the determination of the colour in water. It is known as Hazen's platinum cobalt standard. As regards turbidity, permanent standards are made containing a weighed amount of kaolin to distilled water. Permanent standards may be obtained in the case of determining the nitrogen in nitrates in water without recourse to artificial colours; for the production of a yellow colour by the action of nitric acid upon phenol, as is depended upon in the analysis of water, is quite permanent. Permanent ammonia standards for both free and albuminoid forms may be prepared with the cobalt platinum solution already mentioned. In the case of the estimation of nitrites depending upon the production of a pink colour with sulphanilic acid and naphthylamine hydrochlorate, this may be matched perfectly with a cobalt copper solution. In the same way the iron in waters, converted into the ferric form by suitable means, may be exactly measured by means of a mixture of standard platinum and cobalt solution. The permanency of a standard solution is an immense advantage and all contributions to our knowledge relating to these factors in analysis will be welcomed. The latest contribution, upon which some of the above statements are founded, is from the Mount Prospect Laboratory in Brooklyn, New York, by Mr. Daniel E. Jackson, and his observations will be read with interest by all those concerned in the analysis of potable water.

MASQUERADING AS A MAN.

ON March 2nd a person described on the charge-sheet as "Catherine Coome, aged 66, house decorator, of no fixed home," appeared in connexion with a case of alleged fraud. She appeared in court dressed as a man and, according to her own story, she was married at 15 years of age. Having served as a schoolmistress she went to Birmingham where she determined to personate a man, as she thought she would get on better. She served for two years on board of a Peninsular and Oriental liner as ship's cook and became acquainted with the maid of a lady who lived at Hampton Court. This maid she "married" and they lived together for 14 years. The "husband" then returned to London, where, on account of meeting with severe injuries, she had to enter the workhouse, where her sex was discovered. The story is strange enough, but there is nothing particularly new about it. Besides such heroes of romance as Billy Taylor, the immortal Rosalind, and the love-sick crew who (according to Mr. Gilbert) shipped with Lieutenant Belay, there are historical instances of women who have passed their lives as men. Such a one was Christina Davis, who died in July, 1739, after having served many years in the 2nd Dragoons, afterwards the Scots Greys. She was born in 1667, and when quite a young woman married a man named Welsh. One day Welsh was forcibly recruited and sent to serve in Holland in Lord Orrery's regiment. Christina thereupon dressed herself as a man and enlisted as a foot soldier so as to find her husband. After many adventures, during which she served in the battle of Landen, was wounded, taken prisoner, exchanged, and fallen in love with, on account of which last affair she had to fight a duel, she enlisted in the cavalry and was present at the siege of Namur. After the peace of Ryswick she returned to Ireland without having found her husband, but on war being again declared she took up service again. After the battle of Blenheim she was on prisoners' guard and there met her husband, who had long thought her to be dead. They decided to pass as brothers and continued to serve. At Ramillies she was severely wounded and her sex was discovered. Her husband was killed at Malplaquet, but she was twice married afterwards. At her death she was buried in the grounds of Chelsea Hospital with military honours. Two other remarkable women were Anne Bonney and Mary Read, who lived about 200

years ago and carried on a successful career as pirates, but the classical instance of a woman passing as a man is that of James Barry, M.D., of the Army Medical Staff, a full account of whose remarkable career was incorporated into a novel, "A Modern Sphinx," by Lieutenant-Colonel Rogers.[1] The sexual problems involved in such cases form a curious chapter in medical psychology.

MEDICAL MEMBERS OF THE LONDON COUNTY COUNCIL.

THE following medical men are among the members of the newly-elected County Council of London: Dr. W. J. Collins (St. Pancras, W.), Mr. G. J. Cooper (Southwark, Bermondsey), Dr. G. B. Longstaff (Wandsworth), and Dr. J. F. Little (Marylebone, E.). With the exception of Dr. Little, who gained his seat by one vote, all these gentlemen were members of the last council. Among the members of the profession who unfortunately failed to secure a seat on the council was Dr. E. B. Forman who offered himself for re-election.

FARQUHAR, NORTH, AND CO. v. LLOYD.

IN commenting upon this case in an annotation in our issue of Dec. 1st, 1900, we expressed the view that the damages awarded by the jury were excessive, even assuming that the article complained of which appeared in the *Daily Chronicle* exceeded the limits of fair comment upon the proceedings in the county-court. It may be remembered that the plaintiffs were manufacturers of tinned provisions and had sold goods to a tradesman who had refused to pay for them, contending that they were defective and that had he sold them they would have proved dangerous to the public. The defective condition of the goods was admitted, but the *Daily Chronicle* appears to have erred in its criticism by implying, in accordance with the view of the jury, that the stock of the plaintiffs' beyond those articles sold to the retailer in the case would be found in an equally defective and dangerous condition. For ourselves we maintain that the press does the public an eminent service by its honest criticism and, if need be, censure. This particular case is one which concerns us as medical journalists, for we are constantly dealing critically with foods and proprietary preparations, and if we found poisonous material in a food or a food dangerous to health we should not hesitate to say so. But in thus performing a public duty it is of course most desirable to restrict all censure to the real facts of the case and to keep it free from the smallest external implication. This the *Daily Chronicle* did not do. All the same, the damages awarded were very excessive, but we are glad to find that on contesting the award of £1900 in the Court of Appeal this week the proprietors of the *Daily Chronicle* were allowed a new trial. The Master of the Rolls said that only a very gross libel could command such excessive damages. The verdict, he added, was a scandal, and there must be a new trial unless the parties would agree that the damages should be reduced to £500. The ultimate issue will be interesting.

LOCAL AUTHORITIES AND THE COST OF CONVERTING CONSERVANCY TO WATER-CARRIAGE SYSTEMS.

DR. MEREDITH YOUNG, the medical officer of health of Stockport, raises some pertinent points in a paper in the January number of the *Sanitary Inspector* in regard to the position of local authorities in embarking on large schemes in connexion with the conversion of conservancy systems to water-carriage systems. As is well known, a number of towns have within the past few years obtained Parliamentary powers to contribute towards the cost of converting privy middens into water-closets. While from one point of view this step, as he points out, is commendatory, it may be, perhaps, scarcely equitable from the standpoint of the general ratepayer. In considering the cases of some large Midland towns he shows that the assumption that the results are in favour of local bodies contributing towards the work of conversion in a wholesale manner is hardly justified when certain points in the information are emphasised. Rather it is evident that care should be exercised in taking advantage of the clauses of a private Act or the general body of ratepayers may have to bear the whole of the cost of transforming foul and dilapidated privies into efficient water-closets. In the same number of the journal referred to Mr. C. W. Laskey, the chief sanitary inspector of Eccles, contributes a paper on the same question in which he points out that, owing to the late Lord Chief Justice's decision, magistrates have now no power to order the conversion of an existing privy into a water-closet under the Nuisances Clauses of the 1875 Act, and that local authorities must either have recourse to section 36 or else obtain a private Act of Parliament.

THE annual clinical debate of the Chelsea Clinical Society will be held at the Jenner Institute of Preventive Medicine on March 12th and 19th. The subject for debate is "The Clinical and Pathological Relations of the Chronic Rheumatic and Rheumatoid Affections to Acute Infective Rheumatism." The debate will be opened by Dr. Archibald Garrod, and the following gentlemen will speak, amongst others, on March 12th, Dr. F. J. Poynton, Dr. Alexander Paine, Dr. G. A. Bannatyne, Mr. N. C. Macnamara, and Dr. C. O. Hawthorne. The meeting will be held at 8.30 P.M.

THE Brussels Medical Graduates' Association have unanimously resolved to send an address to the King which sets forth that the members of the association humbly desire to offer their respectful sympathy to His Majesty in his recent bereavement, "caused by the death of our late Sovereign Lady Queen Victoria." The address further congratulates the King on his accession and prays that he may long occupy that exalted position and may worthily extend the beneficence of that rule "so happily inaugurated by her late Majesty."

IT is announced that the honorary degree of LL.D. is about to be conferred by the University of Edinburgh upon Sir John Williams, Bart., M.D., F.R.C.P. Lond.; upon Dr. James Little, Regius Professor of Physic in the University of Dublin; and upon Sir Robert Bannatyne Finlay, the Attorney-General. Sir Robert Finlay, who has attained such great distinction in the faculty of law, began his career as a medical man and graduated as M.D. at the University of Edinburgh. He is also a Fellow of the Royal College of Physicians of Edinburgh.

A TELEGRAM from the Governor of Cape Colony, Sir Alfred Milner, to Mr. Chamberlain, received at the Colonial Office on Feb. 27th, states that the bubonic plague report for the week ending Feb. 23rd was as follows: There were 29 cases remaining under treatment at the end of the week, seven deaths have occurred since the commencement of the outbreak, and there are 21 cases remaining under treatment and 167 "contacts."

WE regret to hear that the Lord Chief Justice is so unwell as to be obliged to cease work temporarily, though we are glad to learn that he is not likely to be much longer confined to his bed. There is no doubt that Lord Alverstone's illness had its origin in the atmosphere of the Central Criminal Court where he presided for six days over the trial

[1] THE LANCET, Jan. 4th, 1896, p. 82 et seq.

of Bennett. We shall have more to say concerning the condition of this court.

THE St. Patrick's Festival Dinner of the Irish Medical Schools' and Graduates' Association will be held at the Hotel Cecil on Saturday, March 16th (St. Patrick's Day falling this year on Sunday), at 7.15 P.M., the President, Dr. William Alexander, in the chair. Applications for tickets should be made without delay to Dr. J. Hutchinson Swanton, honorary secretary to the Dinner Committee, 40, Harley-street, W.

THE King, as Sovereign Head and Patron of the Order of St. John of Jerusalem in England, has approved the election by the Chapter-General of His Royal Highness the Duke of Cornwall and York, K.G., Sub-Prior of the Order, to the office of Grand Prior, vacant by His Majesty's resignation.

OWING to an epidemic of infectious disease, presumed to be influenza, which is prevailing on board H.M.S. training-ship *Britannia* the cadets were on March 2nd sent home for a period of three weeks.

MR. G LESLIE EASTES, M.B., B.Sc. Lond., who has been Laboratory Director of the Clinical Research Association, Limited, having vacated that post, has opened a laboratory for similar work at 62, Queen Anne-street, W.

HIS MAJESTY THE KING has signified to the President and Council of the Marine Biological Association his pleasure in becoming the patron of the association.

DR. HENRY WARD IRVINE has announced his retirement from the post of consultant to the Birmingham Consultative Medical and Surgical Institution.

THE YESTERDAY AND TO-DAY OF AURAL SURGERY.

BY SIR WILLIAM DALBY, F.R.C.S. ENG., &c.

THE rapidity with which events in any department of surgery crowd upon each other and engross the attention of those who practise our art leaves little time for reflection, but it may not be altogether useless sometimes to pause for a few moments and consider, not only the extraordinary changes which have taken, and are taking, place, but the influence which such changes may be expected to have on the future. After the foundation of the Otological Society of the United Kingdom, which did me the honour of electing me President, the first meeting was held on Feb. 5th, 1900. Subsequently all the meetings were largely attended, the interest never for a moment flagged, and there was more material (all of which was most valuable) than could be presented and discussed. Finally, after the session the Transactions were published.

Not so many years ago it was a prevalent idea amongst surgeons that there was not a great deal of surgery in aural surgery, and that those who practised it were chiefly, if not entirely, engaged in endeavouring to give relief to the symptoms of deafness, tinnitus, and pain in the districts within and around the ear. If any such person is alive at the present moment—and I make no doubt that there are many—let him read those Transactions to which I have referred. He will there find some 30 contributions. Most of the cases were shown, submitted to the careful examination of the members present, and discussed most thoroughly. Anyone who reads these Transactions will find nothing but modern surgery and pathology, and throughout the whole volume hardly a mention (beyond what was incidental to the cases) of deafness or tinnitus. In short, the gravity of the cases in regard to life hardly permitted more than a passing attention to these symptoms. The time of the meetings was chiefly taken up in discussing cases of cerebellar abscess recently operated on, cholesteatoma removed from mastoid and meatus, thrombo-phlebitis of lateral sinus, adeno-sarcoma removed, ossicles removed for long-standing suppuration, complete mastoid operation, papillomatous growths removed, epithelial grafting of the labyrinth after removal of the semi-circular canals, sarcoma of the temporal bone, epithelioma of the meatus, &c.

Surely in this list, which might be enlarged, there was no lack of surgery except that sort of surgery which was supposed to engage the attention (to the exclusion of all else) of the aural surgeon. A not altogether unnatural conclusion to which the reader might arrive is that the aural surgeons were so much engaged in, and so fascinated by, the operative surgery that has been mentioned that they had no time or inclination to bestow to what, after all, the multitude is seeking, the relief of deafness which so interferes with their occupations, their careers, their pleasures, and their happiness. Now this would be an assumption not in accordance with facts. It should be borne in mind that for many years past aural surgeons have been working incessantly and bestowing the most unremitting attention to the pathology of the changes which take place within the middle ear with a view, not only to their remedy, but their arrest and the protection against their advent, in this latter direction, especially in the case of childhood and early life, as our records, our daily practice, and results will show, with remarkable success. Let it be also remembered that nothing but the most laborious attention to details and the most careful watching of minute changes has effected this—so laborious that it has required faith in the possibilities that might follow to sustain the workers. One bit of knowledge (the fruit of experience) must always be present to the mind of the aural surgeon who intends to succeed with his cases, and this is that the most minute variations which are extraordinarily apt to escape the notice of a not very earnest observer make all the difference between bad and good hearing. This applies with especial force to middle-ear troubles, but in a measure also to nervous ones.

The surgery which our Transactions have displayed is no doubt very attractive. It is conceivable then, I repeat, that the reader might be led to think it possible that the more work a surgeon of this sort gets the less inclined he may be to trouble himself about the more wearisome and oftentimes disappointing though numerous cases in which the results are not so striking and life-saving. As one who has borne the burden and heat of the day I may be forgiven for assuming for the moment the position of the reader who asks this question and for sounding a note, not of warning, but rather of suggestion, to those who may be thinking of adopting a speciality the advancement of which has been the chief object of my life for some years. If it were necessary to do so I could point out endless examples in which nothing but the expenditure of a great deal of labour can teach the observer the best treatment of minor troubles and give him the delicacy in manipulation that is so necessary and so appreciated by the patient. Again, notwithstanding all the failures that have attended intra-tympanic operations preceded by incision of the membrane for the relief of obstruction within the tympanic cavity; notwithstanding that at some periods incision of the membrane was largely practised, at others given up (except in acute cases to let out pus), only to be revived again and again discontinued, the problem of relieving labyrinthine pressure will, I believe, some day be solved. Those who share this view with me will gain a ray of hope on reading in the Transactions a case by Mr. C. A. Ballance in which, when removing portions of dead bone from the petrous bone, "the semicircular canals were in part destroyed and the back of the vestibule opened." Later, after epithelial grafting operation, the hearing, which had been absent since childhood (there had been otorrhœa and mastoid disease), returned.

Whilst, therefore, I cannot but think that the reading of our Transactions will be a revelation to some as to the work which has been done, and so interesting a revelation that I venture to recommend their perusal, I should much regret if an impression should arise that any part of the province of aural surgeons was in danger of being neglected by our members, so I have anticipated the possible suggestion that may arise in order to combat it and dismiss it as unterable.

HISTORY OF RENAL SURGERY.

BY DAVID NEWMAN, M.D., F.F.P.S. GLASG.,
SURGEON TO THE GLASGOW ROYAL INFIRMARY.

II.[1]

NEPHROTOMY FOR RENAL CALCULUS AND FOR SEPTIC DISEASE.

IT is in the writings of the ancient Arabians that we first meet with a distinct indication that a desire occupied the mind of the surgeon to incise the kidney for the evacuation of an abscess or the removal of a stone. In the eleventh century Avicenna[2] (A.D. 1037) along with Rhases (A.D. 850) and Serapion (ninth century) had taken a distinct step backwards, and he recommended for bleeding from the kidney to inject the rennet of a hare. Avicenna, however, did not take a favourable view of incision for stone in the kidney. He states as follows: "Sunt qui laborant extrahere (calculum renalem) per incisionem illi et per dorsum"; which he characterised as "Operatio ejus qui rationem non habet." Severe though this judgment may appear to be, it is still clear from Avicenna's words there is reason to believe that cutting the kidney was practised in his time, for without the practice having been employed the judgment above quoted would not have been given. Charles Bernard[3] says:—

> But from Avicen's words there is some colour to believe it was practised in his days, though undoubtedly if it were, from him talking so slightly of it it was only by persons of mean character, such, perhaps, as our mountebanks, who having no regard or concern for the lives of men and little reputation of their own to lose venture boldly and sometimes successfully upon those things which wary and more judicious men avoid.

And Turner (page 429) says of Avicenna:—

> There are some, saith he, who attempt to take the stone out of the kidneys by incision of the ilea, but there is a great danger therein and it is an unreasonable operation.[4]

In the fourteenth century Guy de Chauliac advocated the advice given by Galen—viz., the administration of drugs to break up the stone, and he regarded stone in the kidney to be beyond the sphere of the surgeon. He says, however, that should medical treatment fail, although it is dangerous, the stone should be cut out of the bladder, but for renal calculus no operation is justifiable. Cardanus (A.D. 1501) complained that the influence of the teaching of Hippocrates had become lost by his time and strongly advised the revival of the methods advocated by the great teacher. According to Turner he thus expostulates:—

> How many operations have we lost, which were common in the days of Hippocrates? Even Galen has been so far from making addition, that he has pretermitted many useful parts of Surgery, practised by him; such as the operation for the Empiema, the cautery for tumours on the liver, the perforation of the Cranium in the Hydrops Cerebri, the Extraction of the stone from the kidney, by section, and of water *inter cutem*. All which, though many, saith he, now take upon them to perform, yet not in the manner done by the direction of the divine old man, when very many were preserved; whereas now they die under the same, scarce one surviving out of many, notwithstanding their great pretences to know more than the Ancients.

He quotes a case of Albertus[5] who reported that he saw a woman, who having been long afflicted with the nephritic illness, the place being cut into, there were taken out 18 stones of the bigness of a die. Casper Bauhine, according to Turner,[6]

> Makes mention of a young girl, born of nephritic parents, who labouring long under suppression of urine, a swelling arose about the loins, which having long waited for suppuration to no purpose, and finding only an induration of the part, the surgeon boldly cut through the same, and drew forth a couple of stones; after which her water came right as formerly, the wound being healed up. This history, saith he, I had from my master Gulielmus Capellus when I was at Paris.

In the fifteenth century the most remarkable instance of an operation upon the kidney, and the first case in which nephrotomy is supposed to have been performed for the removal of a renal calculus from a kidney that was not suppurating, is related in the Chronicles of Jean de Troyes[7] and quoted by Ambrose Paré.[8] In 1474 a free-lance of Meudon or Bagnolet was imprisoned in Chastollet because of several thefts that he had committed in various places. He was condemned to be hanged. The physicians acquainting the king that many of the citizens of Paris were troubled with stone, colic, and affection and illness of the side, more particularly one of his nobles, Monseigneur de Bochaige, and that the free-lance had been similarly troubled, having long suffered under the same disease, it was their request to His Majesty that a dissection might be made for inspecting the particular seat thereof and that an endeavour be made to extract the stone during the operation, and that the malefactor's life might be granted if he survived the same. Accordingly, at the command of the king the section was made and he ordered that it should be done very carefully. The parts having been examined the wound was sewn up and within a fortnight the prisoner was completely cured, and he was granted remission of his crimes. The man is said to have lived for several years in excellent health. The account of this interesting case is not clear and the question has been raised whether the wound was made through the abdomen, in the lumbar region, or into the urinary bladder. Ambroise Paré says that the intestines were replaced and the wound sewn up. It is very reasonable to believe that the stone was in the kidney rather than in the bladder. There is mention made of the prisoner being subject to nephritic pain, as also pain in the side of the abdomen and from the kidney by the passage of the ureter. Besides, in these days the operation for stone in the bladder was not uncommon, and would not have attracted the attention of the profession as this case has done. It appears from the account of the case that the incision was made through the peritoneal cavity, or at least the cavity was opened. Paré himself discredits this operation, and it is very difficult to know how much importance to attach to it. Certainly Paré disapproved and condemned the operation of nephrotomy. The various accounts of this case differ considerably and it would be inadvisable to place too much confidence in them.

In the sixteenth century Roussetus (1581), who had considerable experience in the Cæsarean section, records two cases of operation upon the kidney, which, however, were followed by urinary fistulæ. In one case a pyonephrosis was opened by an actual cautery by Gérard and a drainage-tube was inserted to keep the fistula open for a period of 26 years. The second case was that of a man, 20 years of age, who had suffered from nephritic colic for a long time, culminating in the formation of an abscess in the thigh, which was opened by the surgeon, and a calculus of the size of a bean abstracted. The fistula remained open until the death of the patient by accident. Roussetus takes pains to prove the practicability of lumbar nephrotomy. As far as we can understand, he wished to open the abdomen at the side, grasp the kidney in front, and cut the stone out from behind, but he never defines this transperitoneal operation as one must define it now. Turner[9] says:—

> I find Rousset has taken pains to prove it practicable, instancing, farther, where it had been done, and even proving, from the Structure of the Parts, that a good Knife's-Man may cut into the same, without dividing any large Vessels; and that both the Muscles, and the Substance of the Kidney, will bear wounding; the whole of the latter being often found wasted by Abscesses and Ulcers that leave little more than its outward Capsule, which is found like a Bag full of Sand or Stones; Yet, after all, he owns there are difficulties in the way to the operation as, the uncertainty that there is a Stone which cannot here be explored, as in the bladder, and therefore, he says it must be the last Remedy, practised only, as his Cæsarean birth, when there is no possibility of delivering the woman otherways. His words are these:—Quo ad Renem videtur vulnus, non necessario esse lethale, sive spectemus actionem et usum proprium (modo alter ren sanus et integer fit suoque satisfaciat officio) sive spectemus ipsius substantiam cum per se satis obtusus, imo sæpe ex maxima parte putridus, et per consequens vel ex parte, vel ex toto mutilis, ita ut a bono, et exercitatissimo anatomico, qui solerti, sit manu, et in similibus casibus exercitatus, possit facile, et cum honore, hæc sectio administrari, sed in corpore robusto, et cum judicio solum dissecans eum locum ubi calculum persentit, cavendo, quoad fieri potest, ne vel insertionem venae emulgentis, vel ureteris exitum laedat postmodum vero consolidationem naturae committens, quod a natura præstari id possit, præter rationem non est. Franc. Rousset. de partu Cæsario apud nos. Sect. 3, p. 66.

Roussetus eventually withdrew these proposals, but for what reason is unknown.

Schenck von Grafenberg (A.D. 1584), like many of his contemporaries, approached the subject from the philosophical standpoint, theoretically agreed with Roussetus, and distinctly advised the removal of calculi from otherwise healthy kidneys. A dissertation by the French anatomist

[1] Part I. was published in THE LANCET of March 2nd, 1901, p. 649.
[2] Canon, lib. iii.
[3] Philosophical Transactions, 1696.
[4] Canon, lib. iii.
[5] De Varietat, lib. viii., ch. 44.
[6] Art of Surgery, second edition, vol. ii., London, 1725, p. 487.
[7] Les Chroniques de Jean de Troyes, appelées Histoire de Louys Unzieme, Autrement dicte la Chronique scandaleuse, publiées par Petitot; collection complète des mémoires relatifs à l'histoire de France, tome xiii., p. 452.
[8] Book 24, chapter xix., ex Monstrelati Chronicis.
[9] Art of Surgery, second edition, vol. ii., p. 487.

Rolfan attracted considerable attention after the beginning of the seventeenth century. He was one of the first to point out that the concretions were formed in the pelvis of the kidney and in the ureter, and he distinguished between their form. In an article which appeared in 1618 he showed that the kidneys were situated behind the peritoneum and might be reached without opening the abdomen, but that on account of their deep position he considered that it was not safe to expose them unless the situation of the organ was revealed by an inflammatory swelling. From the beginning to the end of the seventeenth century several discussions took place as to the feasability of the operation, but comparatively little actual progress was made. But certainly towards the end of the century considerable advance had been made in philosophical opinion, and in 1700 Méry strongly advocated cutting down on the kidney in order to relieve patients who were unable to be helped otherwise. Besides the above-mentioned writers, Jean Ducledat (1620), Beverwyk (1638), and Sinibaldi (1650) contributed to the discussions.

Towards the end of the seventeenth century (1670) a very distinct advance was made in the method of inquiry. Previously to the time referred to physicians knew that a kidney might become destroyed by disease or be congenitally absent without seriously interfering with the health of the individual, but experiments upon living animals to show that life could be maintained after removal of one kidney had not yet been demonstrated. The Italian Zambeccarius[10] undertook various physiological experiments upon animals for this purpose. He was the first to suggest the operation of nephrectomy and in one animal the operation was successful. S. Blancard[11] (A.D. 1690) also successfully extirpated the kidneys of dogs and mentioned that kidneys containing stones or abscesses could be operated upon after ligature of the vessels. Several surgeons who saw his operations were of the opinion that they might be performed upon the human subject, but there is no evidence that any of them ever practised nephrectomy. Blundell also performed excision of the kidney in animals. By these experiments as well as by observations in morbid anatomy, a department of knowledge still in its infancy, the surgeon of the day came to recognise that the removal or destruction of one kidney was not inconsistent with life; but, notwithstanding these indications of advancement, many surgeons opposed all operations upon the kidney. Probably the most influential writer who took up the subject was the scholarly and accurate M. Hévin,[12] who saw and examined Mr. Hobson, the English consul at Venice, whose case was, as far as we know, the first authenticated case of nephro-lithotomy. The case is one which has led to much dispute, and while the decision of most writers has been against its authenticity it appears now to have been rejected by them on insufficient grounds. The case is so important that it is worthy of description in detail. It is also due to the memory of the operator to vindicate his right to the honour of having performed the first authenticated nephro-lithotomy. Dominic de Marchetti was born in Padua in 1626, and in 1654 he published his "Anatomia." In 1662 he succeeded his father as professor of surgery, and in 1680 he became professor extraordinary of practical medicine. He died in 1688, and according to an obituary notice in Papa Dopoli's History he is spoken of as having surpassed all his contemporaries in renown for anatomy, surgery, and physics. With respect to the history of nephrectomy Mr. Henry Morris[13] says:—

> The cases of the archer of Meudon, of the British consul at Venice, and others, which had found their way into surgical literature, may be dismissed in the words of M. Hévin, who wrote in the year 1757: "It is very doubtful, if not absolutely improbable, that cutting into the kidney had ever been practised without the operation having been determined by an abscess swelling or by a fistula due to renal abscess which had broken and discharged in the lumbar region."

And in a paper read before the Clinical Society of London Mr. Morris rejects Marchetti's case in the following words[14]:—

> A precedent of undoubted authority had been much needed to give encouragement to the treatment. Surgeons do not seem to have been convinced by Marchetti's operation, doubtless partly for the reason that he does not appear to have referred to it in his own writings, and that the description which has come down to us was written by one (Charles Bernard) who was not a medical man, and to whom the facts were not narrated until ten years after the event. If this operation by Dominicus de Marchetti, of Padua, upon the English consul Mr. Hobson, towards the end of the seventeenth century, consisted, as is believed by some, in the removal of calculi which could be felt through a sinus in the loin—or, as is thought by others, after laying open an abscess of the kidney—then there is no ground for belief that nephro-lithotomy has ever been performed.

The following is the record of the case given by Dr. Charles Bernard, F.R.S.,[15] a distinguished surgeon in London, Master of the Barber Surgeons' Company in 1703, and elected surgeon of St. Bartholomew's Hospital, August 26th, 1686, upon the special command of the king, who occupied the position of serjeant-surgeon to Queen Anne:—

> This gentleman who was consul for the English at Venice, having been long afflicted with the stone in the kidney, was at length attacked with a fit of that duration and violence that it reduced him almost to desperation, and finding no relief from any means that had been used, he determined to apply himself to Dominicus de Marchetti, who, as Ch. Patin in his Lyceum Patavinum tells us, was "Primarius practicae Extraordinariae Professor" at Padua, a famed and experienced practitioner there, the son of Peter, both well known to the learned part of their profession. To this person, Mr. Hobson, under the greatest extremity of pain imaginable, addressed himself, imploring of him that having made use of all conceivable means and the best advice that was to be had in Venice, without success, he would be pleased to cut the stone out of his kidney, being fixed in his belief that no other method remained capable of relieving him; adding that he was not insensible of the danger, but that death itself was infinitely more eligible than a life in that misery under which he had long and did then groan. Marchetti seemed very desirous to have declined it, representing not only the extreme hazard, but as he feared the impracticableness of the operation, that 'twas what he had never attempted, and that to proceed to it was in effect to destroy him. But Mr. Hobson persisting that if he refused it, he would never desist till he found out one who would do it, Marchetti was at length, by his resolution and importunity, prevailed upon to undertake it; and having prepared him as he thought convenient, he began with his knife, cutting gradually upon the region of the kidney affected, so long, till the blood disturbed and blinded his work so that he could not finish it at that attempt, wherefore dressing up the wound till the next day, he then repeated and accomplished it by cutting into the body of the kidney, and taking thence two or three small stones, he dressed it up again. From this instant he was freed from the severity of his pain, and in a reasonable time was able to walk about his chamber, having been in no danger either from flux of blood or fever. Marchetti continued to dress the wound for a considerable time, but was not able to close it up, it soon becoming fistulous from the continual flowing of the urine through the sinus; but being in all other respects restored to his former health and vigour, and the matter discharged being little, he took leave of the professor and returned to Venice under the care and management of his wife, who, one morning, as she was dressing the sore, fancied she felt something hard and rugged as she wiped it, upon which, examining a little more carefully with her bodkin, which served her instead of a probe, she found it to be a stone of the figure and magnitude of a date-stone, which, being removed, he never after complained of the least uneasiness in the part. About 10 years after this he returned to London, where the learned Dr. Tyson and myself were, by Dr. Downes who had known him formerly in Venice, invited to see him, which we did at the Castle Tavern, in Paternoster Row, when, after we had received this account from himself, he gave us the satisfaction of viewing the sore, which continued open, and permitted me without any complaint (the callosity being great) to pass my probe into the sinus so far that we concluded it reached into the kidney; the matter it then discharged was but little in quantity, but always diluted with and smelt strong of urine. The orifice would sometimes close for three or four days together, and then the matter made its way through the common passages with the urine, yet without any difficulty or pain. There is no question but that there was a coalition of the kidney and the psoas muscle. When we saw it he applied nothing to the orifice but a clean linen rag which had a strong urinous scent. He was then as able in appearance to perform all the functions of life, and to undergo any fatigue, as any man of his years, being then, I conceive, upwards of 50, and was the next day to ride about 40 or 50 miles. I have heard that he is since dead, but could not be informed of what disease.

The question of the authenticity of this case is very fully discussed by Mr. Howard Downes.[16] He says:—

> Mr. Morris gives us five reasons for rejecting the case: (1) Dominicus de Marchetti does not refer to it in his own writings. (2) Charles Bernard, the reporter, was not a medical man. (3) The reporter only heard of the case ten years after the operation. (4) Some people believe that the operation consisted of removing calculi felt through a sinus in the loin. (5) Others believe that a kidney abscess was opened and calculi found.

Mr. Downes meets these objections very fully in the paper above referred to, so that this case seems to be the first authentic instance of a surgeon cutting down upon a kidney free from suppuration and extracting from it a stone. The case, however, remained a *curiosa chirurgica*, no surgeon following the example of Marchetti, and many, indeed, considered the operation as indefensible.

Schurrigius (1744) discusses the whole question under the name "nephro-lithotomy" and takes as a text the case of a certain General Herr von Brickhols, general-in-waiting to the King of Poland and Elector of Saxony, who suffered from stone in the left kidney. In this case, however, the

[10] Experimenta circa divers Var. Animal Viv. essect. Visc. et Supplem. (act. nov. erudit Lipsiæ), sect. 6, p. 275.
[11] Article, Nephrotomia Lex. Med. Renovat. et Prax. Med., tome ii., cap. 13, pp. 252, 253.
[12] Mém. Académie Royale, &c., 1757, tome iii., p. 238.
[13] Hunterian Lectures, 1898, On the Origin and Progress of Renal Surgery.
[14] Transactions of the Clinical Society, vol. xiv., p. 34.
[15] Philosophical Transactions, London, for 1696, p. 333.
[16] Medical Times, vol. i., 1865, p. 238.

surgeon refused to operate because he thought the stones were blocking the ureter too low down to be reached. When the general died examination of the body showed the left kidney to be completely destroyed and occupied by several calculi. Schurrigius[17] is certainly the first to employ the word "nephro-lithotomy," the term employed by the older writers being "nephrotomy." Joachim Camerarius[18] (A.D. 1598) relates a case in which a surgeon successfully extracted a stone that was plugging one of the ureters in a nobleman who was suffering agonies from renal colic and who demanded something to be done for his relief.

During the eighteenth century marked progress was made in our knowledge of renal disease. Human anatomy came to be more carefully studied, at least by those who aimed at being competent surgeons, and was expounded more fully to the student. The study of pathology was called into existence also. It is true that previously to this time Malpighi and Swammerdam, by the use of injections and with the aid of the microscope, had given a wonderful impulse to researches into the minute structure. Wharton had investigated the structure of the glandular organs, William Harvey (A.D. 1666-1723) had discovered the circulation of the blood, while Aselli had demonstrated the existence of lymphatic vessels; but Morgagni, who must be regarded as the founder of pathology, had still his work to do and to make his extraordinary influence felt. In Italy a country which still retained its pre-eminence in medical science, we find during this century Pacchioni, Valsalva, Morgagni, Santorini, Mascagni, and Cotunni; in France Winslow, D'Aubenton, Lieutaud, Vicq d'Azyr, and Bichât; while in Germany the accomplished Haller and Meckel were starting a school of medicine and preparing the way for the remarkable achievements of medical science in their country during the following 150 years. In Holland scientific progress was represented by Sandifort, Bonn, Albinus, Boerhaave, and Camper; while in Great Britain the two Hunters, Cowper, Cheselden, William Lawrence, Cruikshank, Charles Bell, and the Munros worthily developed anatomical and pathological science at home. The work of these men marked a great epoch in the development of the sciences and led up to an exact knowledge of surgery.

During this period there was considerable advancement made regarding the pathology of renal and vesical calculus and the situations in which they were liable to form. Previously the idea entertained was that stones were situated either in the substance of the kidney or in the hollow behind the kidney, and that the swelling or abscess associated with calculus ruptured into the kidney and caused a swelling externally. The most important contribution to the subject is that given to us by the scholarly and accurate M. Hévin[19] (1757) in his historical and critical researches into nephrotomy. He criticises the subject very severely and even the case of Consul Hobson he rejects. The following are his opinions in respect to nephro-lithotomy:—

> To establish the possibility of an operation it is not enough to presume that it will not prove fatal to the patient, but it is necessary that science can assure the execution of it. The plans for any great operation, which is wanting in the certain rules that science demands, can only be suggested by researches and views which may lead if possible to determine exactly the technique of the operation. Great operations are always very dangerous; therefore an operation whose execution is more uncertain than its success is not a lawful one, and can only be undertaken by a surgeon who is honest and religious.

With reference to cases in which suppuration has occurred and where fluctuation can be made out in the lumbar region, or if the abscess lies outside of the kidney, he recommends that the organ itself should be cut into and the stone removed from its pelvis, by opening the kidney with the cautery, and when fluctuation is not distinct a trocar and canula should be inserted, and the wound stretched out until it is large enough to permit the stone being removed. Mr. John Douglas,[20] a surgeon of Edinburgh, records a case of old standing renal calculus. The patient died in 1731 and at the post-mortem examination he says:—

> Having always been of opinion that there was a stone in the right kidney, I resolved first to imitate the operation called by authors nephrotomy.

This he attempted, but the difficulty was so great on account of the very muscular condition of the subject that he failed to reach the stones and had to open the body in front.

(*To be continued.*)

[17] Litholog., Hist. Med., cap. 13.
[18] Schenck: Observ. Med., lib. iii.
[19] Mém. Académie Royale, &c., 1757, tome iii., p. 238.
[20] Medical Essays and Observations, vol. i., p. 186.

NOMENCLATURE AND CLASSIFICATION.

BY CHARLES POWELL WHITE, M.D. CANTAB., F.R.C.S. ENG.,
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A UNIFORM and logical system of nomenclature and classification is a great help in the study of any science. In medicine it is to be feared that such a system is impossible, but, at any rate, our present systems are capable of great improvement and it is my object to endeavour to show in what ways we can effect this improvement. Our conception of what a disease is will vary according to the standpoint from which we regard it. On the one hand, we can say that a disease is characterised by a definite causal agent, and on the other, that it is characterised by definite lesions. We, therefore, have two systems of nomenclature and classification—one based on cause and the other on effect. Both these systems are useful, and, indeed, necessary, but neither can take the place of the other. There are some names (e.g., syphilis) which have no inherent pathological meaning; these have mostly come to be regarded as having an etiological significance.

NOMENCLATURE.

The chief factors concerned in producing the unsatisfactory state of medical nomenclature are (*a*) the bias of antiquity, (*b*) the bias of authority, and (*c*) the progress of knowledge which has caused us to look upon diseases from a different aspect to that from which our forefathers regarded them. A name should comply with certain conditions: it should be classical, preferably Greek, in form; it should express by its derivation the condition to which it is applied; its form should correspond with that of other names expressing corresponding conditions; and it should not be too cumbersome. Although we cannot hope to create an ideal system of nomenclature we can improve the present system to a great extent (1) by removing illogical and redundant terms; (2) by always using corresponding terms to express corresponding senses; (3) by making new names to express new meanings instead of altering the meanings of established words; and (4) in the case of alternative words by choosing that which best expresses the condition.

1. *By removing illogical and redundant terms.*—The most important of the illogical terms at present in use are the prefix "pseudo-" and the qualifying adjective "false." It would be a great improvement in medical nomenclature if these two terms were entirely removed. Why, for instance, should we call a fibroma of a nerve a "false neuroma"? We might with equal reason call a fibroma of the kidney a "false adenoma." These terms have arisen from the advance of pathological knowledge and the consequent alteration in the meaning of terms. For example, the term "tuberculosis" used to mean a disease characterised by the presence of certain structures called "tubercles"; now, however, it means a disease due to the bacillus tuberculosis and, in consequence, some diseases which, having the necessary tubercles as characteristics, would rightly be included in the term in its old sense, now are indicated by the term "pseudo-tuberculosis." Among redundant terms which might be discarded with advantage may be mentioned "atheroma," "epithelioma," &c. The term "cirrhosis" should be used in a clinical sense only; "fibrosis" is a much better term to express the pathological condition of increase of fibrous tissue.

2. *By always using corresponding terms in corresponding senses.*—This is especially necessary in prefixes, suffixes, &c. Terminations:— *-trophy.*—This termination, which really implies nourishment, is always used to imply growth, and it should be restricted to this sense. *-plasia.*—This implies development and it should have this meaning whatever prefix is attached to it. The usual definition of hyperplasia that is given is "hypertrophy by increase in the number of cells," as opposed to simple hypertrophy, which is "hypertrophy by enlargement of individual cells." This, however, implies a meaning of the termination which is not found in the other words of which it forms part; moreover, it is not sufficiently definite because it includes too much. For instance, the term "hyperplasia of the liver" does not indicate whether the change is due to an increase in the number of the lobules of the liver or to an

increase in the number of cells in each lobule. Again, hypertrophy of the kidney may take place in three possible ways. 1. By an increase in the number of tubules and glomeruli. 2. By an increase in the size of individual tubules, the number remaining the same: (*a*) by an increase in the number of cells in the tubule, and (*b*) by enlargement of individual cells. With the ordinary meaning of the terms 1 and 2*a* would both be included in the term "hyperplasia," although they are totally distinct processes. I should call 1 "hyperplasia," 2*a* "numerical hypertrophy," and 2*b* "simple hypertrophy," and I should express the difference between hyperplasia and hypertrophy as exactly that between development and growth. That this is a true distinction is shown by the fact that hyperplasia, as I have defined it, only occurs during the period of development (at least, if compensatory in origin), and that simple and numerical hypertrophy are usually associated together. For instance, if one kidney fails to develop the other undergoes hyperplasia; but if one kidney, having developed, undergoes atrophy or is removed the other undergoes hypertrophy. *-ergia.*—We have the termination "-trophy" and "-plasia" to express growth and development, and I have proposed to introduce the termination "-ergia" to express functional activity; thus "hyperergia" would mean "increased functional activity." *-æmia.*—This termination has two significances, one referring to the condition of the blood and the other to the distribution of the blood in the vessels. This is unfortunate but it would seem to be unavoidable. The other terminations do not need discussion as there is no ambiguity in their use. Prefixes:—Prefixes should always be used systematically and in different words should express the same meaning. The prefix *a-* or *an-*, which really implies absence, is sometimes unfortunately used in the sense of diminution, as in the word a-trophy. In the word an-æmia it implies sometimes absence and sometimes diminution. Strictly speaking, "atrophy" should mean that the part though developed had not grown; it is, however, always used in the sense that the part which had grown afterwards has diminished in size. The prefix *ana-* is sometimes used in this sense, as in the term "anaplasia," which means "backward development." The prefix *hypo-* implies deficiency and should not be used as implying absence. The other prefixes need not be discussed. Suffixes:—*-oma.*—The suffix "-oma" should be limited to the designation of the true tumours and it should not be applied to other conditions. The term "atheroma," besides being redundant, is used in more than one sense and there would seem to be little advantage in retaining it. *-osis.*—This suffix expresses (*a*) an overgrowth or multiplication of the structure designated by the root to which it is affixed. Thus fibrosis means an overgrowth of fibrous tissue and fibromatosis implies multiple fibromata. (*b*) Sometimes this suffix implies that the cause of the disease is expressed in the root to which it is attached; thus anthracosis is a disease due to coal-dust, aspergillosis is a disease due to the growth of an aspergillus, &c. The suffix, therefore, has sometimes an anatomical, sometimes an etiological, significance. *-itis.*—This suffix has an anatomical significance and implies inflammation, and the root to which it is attached should express the organ or tissue which is inflamed. Some authors recently have expressed a wish that the term "inflammation" and the corresponding suffix should be removed from medical nomenclature. This, however, is impossible, as we should in that case have no terms to describe the inflammatory conditions as met with in the post-mortem room. A purely etiological nomenclature can never be suitable for the purpose of describing anatomical conditions, since a specific causal agent does not always give rise to the same morbid lesion, and no single lesion is always due to one and the same causal agent.[1]

3. *By inventing new terms to express new meanings instead of altering the meanings of established words which already have a definite significance.*—For instance, the word "diphtheritic" has long been used to describe a particular form of inflammation and there is no other word to express this meaning. When, however, the disease "diphtheria" was isolated and found to be due to a specific bacillus there was a natural tendency to limit the application of the term "diphtheritic" to conditions met with in diphtheria and so to alter its significance altogether. It is much more satisfactory to leave "diphtheritic" in its old sense and to use the term "diphtherial" as the adjective of "diphtheria." This is done by many writers and editors at the present day and it would be a great advantage if it were the universal custom.

4. *In choosing between two alternative names that one is to be chosen which best expresses the condition.*—Thus, "leucocythæmia" is to be preferred to "leukæmia," and "fibrosis" to "cirrhosis," &c.

Nomenclature of tumours.—I have given elsewhere[2] my views as to the nomenclature and classification of tumours, so that I need say very little about them here. Simple or tissue tumours are to be named by affixing the suffix "-oma" to the root expressing the name of the tissue which constitutes the essential part of the tumour. Exceptions occur in the case of epithelial and endothelial tumours since the terms "epithelioma" and "endothelioma" have been applied to malignant growths. The place of these terms is taken by the terms "papilloma," "adenoma," "angeioma." I should call any simple epithelial tumour in which the epithelium forms tubes and spaces lying in a connective tissue stroma an "adenoma," whether the growth starts from a gland or from a surface epithelium. Carcinomata are to be named according to the kind of epithelial cells of which they are constituted; such words as "adeno-carcinoma" are not necessary and only lead to confusion. Cancer.—Most writers at the present day use the term "cancer" as synonymous with "carcinoma." In this sense the term is redundant and therefore unnecessary. It would be much more satisfactory to revert to the older meaning of the word as signifying any malignant growth, since we often have occasion to speak of malignant growths without specifying whether we are speaking of carcinoma or sarcoma.

Another direction in which reform is desirable is in the use of the word "coagulate." This is applied indifferently to the change which occurs in albuminous bodies by the action of heat, alcohol, &c., and to the changes occurring in the clotting of blood or muscle. There would seem to be no reason for this double use of the word.

CLASSIFICATION.

It may be said at once that it is absolutely impossible to find a system of classification which shall be useful for all purposes. A disease is not a definite entity, but is an action. It has been defined as "an abnormal interaction between the structure of the living body and its environment."[3] Our conception of disease is therefore inseparable from life. For example, we can speak of lead intoxication as a disease, but it is not the lead that is the disease, nor is it the effect that lead produces on the body, but it is the action of the lead on the living body. Since, then, diseases are not entities we cannot classify them in the same way as we classify material substances; we can only classify them according to the cause of the disease or according to the effects that are produced on the body. Classification by cause is useful for the systematic consideration of diseases, as, for example, in a text-book of medicine or surgery. When, however, we have to do with clinical symptoms or morbid conditions of the different organs the most useful system of classification is by the effects produced on the body by the causal agent. Whenever we make a diagnosis we make a mental classification by effect. We first observe the effects of the disease and then by successive stages we arrive at a conclusion as to the cause. We thus in diagnosis and in the post-mortem room argue from effect to cause and not *vice versâ*; in the systematic study of diseases, on the other hand, we often argue from cause to effect.

The confusion arising from the use of an illogical and unscientific system of classification is seen in the result of classifying tumours on an embryological basis. In this system carcinoma is said to be epi- or hypo-blastic in origin; those, therefore, who adopt this system must, if they are consistent, deny the existence of carcinoma arising from the renal, testicular, ovarian, or uterine epithelium. Moreover, since the neuroglia is almost certainly epiblastic in origin, the gliomata should be included among the epiblastic rather than among the mesoblastic tumours. At a recent meeting of the Pathological Society of London one of the members is reported to have doubted the existence of carcinoma arising from the hepatic cells because it has been suggested that these cells are of mesoblastic origin.[4] There is no reason whatever why we should classify tumours according to the layers of a three-layered embryo; it is much more scientific

[1] The Relation between Cause and Effect in Disease, Brit. Med. Jour., Dec. 15th, 1900.

[2] Journal of Pathology and Bacteriology, vol. vi., p. 220.

[3] Harry Campbell: The Causation of Disease, London, 1889.

[4] THE LANCET, Jan. 19th, 1901, p. 180.

to classify them on a histological basis, since we can observe their structure and can only infer which embryonic layer they belong to.

Any classification should satisfy certain conditions. 1. It should be based on observable facts and not on inferences. 2. In dividing a class into sub-classes the basis of division must be the same for each sub-class formed; thus it is wrong to divide cirrhosis of the liver into multilobular, monolobular, and syphilitic, as is done in many text-books. 3. The sub-classes of any class should be mutually exclusive—i.e., there should be no overlapping. 4. The sub-classes when added together should include the whole of the class and no more.

Classification by cause.—The factors concerned in the causation of disease can be divided into (*a*) extrinsic and (*b*) intrinsic. A cause which is extrinsic as regards a particular organ may be intrinsic with regard to the whole body. Causal factors can also be divided into (*a*) essential and (*b*) adjuvant, the essential cause being that without which the disease could not occur and the adjuvant causes being those which assist in the production of the disease without in themselves being individually necessary. We can therefore classify diseases as follows. 1. Diseases in which the essential factor is extrinsic—(*a*) parasitic diseases; (*b*) intoxications; (*c*) diseases due to physical or chemical irritants; (*d*) diseases due to alteration in amount or pressure of the surrounding medium; and (*e*) diseases due to altered nerve-supply, &c. The processes concerned in these diseases are inflammation, consecutive atrophy, consecutive hypertrophy, degenerations, &c. 2. Diseases in which the essential factor is intrinsic. For example, those diseases which are characterised by the processes primary atrophy, progressive hypertrophy, tumour formation, maldevelopment, &c. The actual nature of the intrinsic factors in the causation of disease is unknown to us; we cannot, therefore, subdivide the second class in the same way as we can the first. It is obvious that it is very difficult to allot a place to every disease in this system of classification.

Classification for general pathology.—General pathology is the study of pathological processes, their causes and effects, without reference to any particular locality or disease. In any scheme of classification for general pathology we must provide for certain processes or conditions which may be called "physical"—namely, those processes or conditions which depend purely on physical causes. Such are the distension of blood-vessels in obstruction of the circulation and the emptying of the vessels beyond the obstruction, the distension of ducts from obstruction, wounds, deformities, &c. We might classify the pathological processes as to cause in accordance with the scheme given above, dividing them into (*a*) consecutive processes, and (*b*) primary processes. We should subdivide (*a*) according as the processes are the result of irritation, alteration of blood-supply, nerve stimuli, functional activity, &c. This method has the disadvantage that the processes "atrophy," "hypertrophy," &c., would appear under (*b*) and also under most of the subdivisions of (*a*). We might, on the other hand, classify them according to the nature of a process thus: (*a*) alterations of development; (*b*) alterations of growth; (*c*) alterations of functional activity; (*d*) degenerations, &c.; and (*e*) physical. The best method, however, is as to the results of the processes.

If we consider the strictly pathological processes we find that we can divide them into three groups. 1. Those which are characterised by a destruction or diminution of tissue or functional activity (destructive processes). Such are atrophy, hypo-ergia, &c. 2. Those which are characterised by a replacement of tissue or functional activity lost, or by an increase to meet extra demands (reparative processes). Such are repair, regeneration, and the compensatory processes. Inflammation would also come under this heading as a preparation for repair. 3. Those which are characterised by an actual increase of tissue or functional activity beyond the needs of the organism (constructive processes). Such are tumour formation, &c. I should subdivide the first group into primary and consecutive processes, and the third into those which are collateral, such as hypertrophy from increased blood-supply without any demand for extra work, and those which are progressive, such as tumour formation, &c.

Our knowledge of the infiltrations is too incomplete to allow us to assign them their proper place in this classification. In accordance with custom they may be provisionally classed with the degenerations.

SCHEME OF CLASSIFICATION FOR GENERAL PATHOLOGY.

A. Etiology, including parasitology.
B. Developmental errors: monsters; malformations (aplasia, hypoplasia, hyperplasia, and kakoplasia—i.e., irregular development); and malpositions.
C. Physical processes: deformities; displacements; solution of continuity; distension of tubes and spaces; and blocking of tubes and spaces.
D. Cessation of physiological processes: necrosis.
E. Destructive processes: consecutive (atrophy, anergia, &c.; degenerations, &c.); and primary (atrophy, anergia, &c.).
F. Reparative processes: inflammation, repair, regeneration; compensatory hypertrophy; compensatory hyperergia; and compensatory metaplasia.
G. Constructive processes: collateral—e.g., hypertrophy from increased blood-supply; and progressive (progressive hypertrophy, progressive hyperergia, progressive metaplasia, and tumour formation).

Classification for macroscopic morbid anatomy (museum or post-mortem room).—In the arrangement of a museum one section should be devoted to specimens illustrating general pathological processes. This section is best arranged on an etiological basis and it should contain specimens illustrating the various processes and also typical specimens illustrating diseases which are not limited to any particular organ, such as tuberculosis, metastatic carcinoma, &c. It should also contain specimens of the various parasites, animal and vegetable. The rest of the museum should be divided into sections corresponding with the different systems, each of these sections being subdivided according to the organs in the system. In the case of the bones classification should proceed according to the scheme to be given before subdividing according to individual bones, and this should be the case with regard to the joints, muscles, &c. The primary classification should be based on the macroscopic appearances and not on etiology. Cause should be used as a basis of subdivision. In this scheme the inflammatory conditions present the greatest difficulty. I think that the best division is into non-suppurative, suppurative, and ulcerative; they could then be subdivided into diffuse and nodular conditions. Fibrosis (sclerosis in bone, &c.) should be accorded a separate class because it is not necessarily a post-inflammatory condition. Inflammatory conditions and tumours should, if possible, be subdivided according to the portion of the organ affected; thus, tumours of bone should be divided into central and peripheral growths. Cathcart[a] advocates the classification of a museum on an etiological basis, but his system is open to many objections. In the post-mortem room, as at the bedside, we argue from effect to cause and not *vice versâ*. If, then, the museum is to be of assistance in clinical work the primary basis of classification should be the effects produced on the organs by disease, cause being used as a basis of sub-classification. Another objection to Cathcart's system is that similar conditions of an organ, instead of being placed together, would be found under several headings; there is also an unjustifiable separation of syphilis from tuberculosis, the one being called a blood poison and the other a local irritation.

SCHEME OF CLASSIFICATION OF THE MORBID CONDITIONS OF THE DIFFERENT ORGANS.

A. Alteration in form or position: malformations; deformities; malpositions; and displacements.
B. Alteration in structure: metaplasia—e.g., ossification of tendons.
C. Solution of continuity: wounds, fractures, &c.
D. Repair—e.g., cicatrices, healing of fractures, &c.
E. Disturbances of circulation: hyperæmia, embolism, &c.
F. Retrogressive changes: atrophy; and fatty, calcareous changes, &c.
G. Inflammatory conditions: non-suppurative (diffuse and nodular—e.g., tuberculosis, &c.); suppurative (diffuse—e.g., cellulitis, and abscess; and ulcerative).
H. Fibrosis (sclerosis).
I. Necrosis (gangrene).
J. Hypertrophy: compensatory and progressive.
K. Tumours.
L. Cysts.
M. Animal parasites *in situ*.

Classification for clinical purposes.—It is not possible to give a complete scheme of classification for clinical purposes, since it will necessarily vary according to the organ which is affected. The natural system is one based on the symptoms to which the diseases give rise. Thus, we speak of diseases of the liver associated with ascites or jaundice and we divide affections of the serous membranes into those with and those without effusion, &c.

Classification for histological purposes.—In classification for histological purposes we use as our basis the histological characters of the lesions found in the disease; thus, we divide inflammations of the kidney into glomerular, tubal, and interstitial nephritis. In describing the microscopic

[a] Classification in Pathology, Edinburgh Medical Journal, 1896, vol. xlii., pp. 37, 141.

appearances of any lesion we should not use words implying an etiological classification such as "syphilitic cirrhosis," "scarlatinal nephritis," &c. As examples of these various systems of classification let us consider cirrhosis of the liver. 1. Classification according to the cause: (*a*) alcoholic; (*b*) syphilitic; (*c*) biliary; and (*d*) post-febrile, &c. 2. Classification according to the symptoms: (*a*) cirrhosis with ascites; and (*b*) cirrhosis with jaundice. 3. Classification according to the macroscopic appearances: (*a*) small cirrhotic liver; and (*b*) large cirrhotic liver; or (*a*) hobnail liver, and (*b*) smooth cirrhotic liver. 4. Classification according to the histological appearances: (*a*) multilobular; (*b*) monolobular; and (*c*) pericellular. 5. Classification according to the nature of the fibrotic process: (*a*) inflammatory; (*b*) replacement; and (*c*) progressive. It will be noticed that no two of these classifications coincide and that a system which is suitable for one purpose is not suitable for another.

In the foregoing remarks I have endeavoured to indicate some of the rules that should guide us in the construction of names and schemes of classification. It has been impossible to give more than a few examples, but those given are, I think, sufficient to show that nomenclature and classification should proceed according to definite rules and not in the hap-hazard manner which is too common at the present day.

Leeds.

THE ROYAL COMMISSION ON SOUTH AFRICAN HOSPITALS.

(Continued from p. 667.)

III.

IN our issue of March 2nd we gave an abstract of the report of the Commission as far as it dealt with matters up to the occupying, and advance from, Bloemfontein. We now continue the abstract of the report as it deals with the advance to Pretoria and the incidents which occurred on the way.

The advance to Kroonstad was, say the Commissioners, similar in most ways to the advance to Bloemfontein, though the condition of affairs was somewhat better. The sick and wounded accumulating during the advance were sent back to Bloemfontein, except some who were detained for a time at Glen and at Karee. As to the passage by railway from the rail-head to Bloemfontein the Commissioners say:—

As a rule the men were properly supplied with necessaries, but there were cases of prolonged detention when there was a deficiency of supplies. And the open trucks which had generally to be used for the less serious cases must have caused hardship to their occupants. We ought, however, in considering this subject, to observe once for all, with regard alike to this particular advance, to the advance upon Bloemfontein, and also to the subsequent advance of the army to Johannesburg and Pretoria, that, though men may have fallen out from the ranks during the march, there is no real foundation for the suggestion that to any appreciable extent sick or wounded men were left lying on the veldt unattended.

There is one incident connected with this advance referred to in Mr. Burdett-Coutts's evidence which we should particularly notice. It concerns the repulse of the Inniskillings and the Scots Greys. It is said that the wounded were left unattended from 9 A.M. to 4.30 P.M. and that they were then taken to a tin hut by Major Eames, of the New South Wales Bearer Company, and left in charge of a civil surgeon there; that two days afterwards an order was sent to the civil surgeon that the hut must be evacuated; that he protested, on the ground of the condition of the patients, against the order, but that he was obliged to carry it out notwithstanding his protest, and that the sick and wounded were sent away by ox-wagons, excepting only three officers who were detained in the tin hut under the care of a doctor. Mr. Burdett-Coutts adds that it appeared to him that the detention of these three officers alone was an unfair distinction. The facts of the case appear to be as hereafter stated, from which it will appear that any suggestion of unfairness in the treatment of the officers and privates is wholly unfounded. The troops were mounted and had been fighting a skirmishing action in front and it was quite impossible for ambulances to keep up with them. When the loss to the Inniskillings and Scots Greys occurred the wounded could not be collected until some ambulances came up. The first to come up were the ambulances of the New South Wales Ambulance Corps which was well in front and provided with good horses instead of mules. These ambulances at once gathered the wounded men without any undue delay and took them first to a Kaffir kraal where they were tended for a night, three surgeons, being present, one of them a gentleman temporarily serving as a private. The next day the men were removed to a tin house at Ventersberg Siding and there they were operated on and carefully and properly attended to by the three surgeons, assisted by Mr. Cheatle, one of the civilian consulting surgeons. Then the surgeon who had been previously serving as a private volunteer was left in charge after his skill had been tested by the other surgeons. Some days after this the wounded in the hut had to be removed, so far as they could be without injury to themselves, on account of the military situation and the fact that the enemy were threatening the position. Before the removal three surgeons had consulted together and selected those patients who, in their opinion, could be removed with safety. No protest of any kind was made in respect of the removal by any surgeon. They all agreed that the patients who were sent could properly be removed. Three patients, and three patients only, were kept because their condition was such that they could not be transported with safety to themselves. Of those, two were officers and one was a private. Their injuries were very severe. They were kept wholly irrespective of rank and entirely upon considerations of their medical condition. That no question of rank entered into the determination of the matter is obvious, not only from the nature of the wounds of the men who remained, but from the fact that amongst the patients who were sent away were included three officers.

Glen and Karee Siding Hospitals.

We may here deal shortly with the condition of the hospital at Glen. Between 200 and 300 patients were kept there during the advance under the charge, as above mentioned, of the 14th Brigade Field Hospital. Complaints have been made, and justly, with regard to the site of the hospital. It was, no doubt, a bad site and unsuitable for a hospital. Lying in a hollow, it was liable to become extremely damp during wet weather, and, accordingly, we find that the men in the tents did complain greatly of the state of the ground on which they were lying, and said that they had become worse instead of better since they had been placed there. The Rev. Robert McClelland, acting as a Presbyterian chaplain to the forces, who gave evidence as to the condition of the hospital, visited it on the 23th April, and he points out how, on removing the waterproofs under the blankets of the men, he discovered a fungus growth existing there. This is sufficient in itself to show the nature of the ground. We inquired from the officer who selected the site (Major Faunce) how it came to be chosen. He said that it was the only possible site that could be selected, because there were military reasons against encamping on higher ground, and then goes on to say: "We should have been behind the outposts and there were other military reasons; in fact, there was no other ground at Glen where we could have encamped, and it was the only clean piece of ground."

It is difficult for us to judge whether another and better site might not have been selected. The hospital was, in fact, evacuated shortly after Mr. McClelland visited it. Apart from the nature of the site there are not many complaints with regard to this hospital except those inseparable, as previously pointed out, from the fact of a field hospital being used as a fixed one. Probably it is to this evacuation that Mr. Burdett-Coutts alludes when he speaks of a convoy being subjected to nameless torture owing to the patients being huddled together in rough springless ox-wagons and jolted over spruit and drift for 40 miles. In his evidence he informed the Commission that in his statement he referred to a convoy which came from Glen some time about the 28th April, and as the 14th Brigade Field Hospital reached Kroonstad on the 14th May Mr. Burdett-Coutts's date would coincide closely with the period of its evacuation. It should be noted, however, that Glen is only 14 miles from Bloemfontein and not 40 miles.

With regard to the temporary hospital formed at Karee it appears to have been overcrowded and to have had the usual drawbacks attributable to a hospital formed under its conditions.

KROONSTAD.

With regard to Kroonstad itself the town was small and the buildings which had to be taken for hospitals—the only existing hospital being full of Boers and British prisoners—were not well suited for the purpose. There were undoubtedly great pressure and corresponding discomfort for the patients, but after the line to Bloemfontein was open the state of matters improved. The army of occupation arrived on May 12th and soon after the state of matters is well shown in the following extract from the report:—

On the 16th May Major Ford of the 18th Brigade Field Hospital took charge of the buildings. Several witnesses bear testimony to the great credit due to this officer for what he did under very trying and adverse conditions, and in our opinion the work he did was, under the circumstances, remarkably good. Those difficulties, as may be easily seen, were very great. For the first few days the staff of the 19th Brigade Field Hospital had practically alone to look after all the sick and wounded in the town though the field hospital of the 3rd Cavalry Brigade appears to have been there for two days. (*Vide* Minutes of Evidence—Captain McMeekan.)

Such a staff was wholly insufficient in numbers and equipment to look after the patients requiring attention. At the time that Major Ford took over the buildings there were in the Kroonstad Hotel 16 officers and 127 men (not 200 as one witness has stated). These men were placed chiefly in the dining-room of the hotel, and all, with the exception of about a dozen, had mattresses. With regard to these latter men, directly Major Ford took command of the building he at once commandeered mattresses for them, and on the next day all the patients in the hotel were provided for. Dr. Manning, a local doctor, was placed in charge of the Grand Hotel to which about 150 patients were removed from the field hospitals on Lord Roberts's advance. Dr. Manning as a civil surgeon was, of necessity, not much experienced in military hospitals, but did well under the circumstances, having to assist him only 15 untrained orderlies. This hotel had not been prepared for the reception of the patients when they first came in, and the rooms in which they were placed were very inconvenient. Great discomfort was, of necessity, suffered by the men, and there was great difficulty in attending to them at all. The men had to lie on the tables and floors of the buildings, and could not be, and were not, properly looked after or nursed for the first few days. But all the patients within three days after the occupation of the hotel had mattresses to lie upon, or their equivalents, and the worst cases had change of clothing provided for them within two days after the hotel was first taken. On the 22nd May Major Ford cleared some of the patients from this hotel to the Rest Camp which had been prepared, and within the next three days the hotel was cleared of all the patients except a few officers who were left in the small rooms on the upper floor, where, having their own servants, they could be properly attended to. There these officers remained until the hotel was closed altogether as a

hospital. Of the privates sent out from this hotel by Major Ford 50 were sent to the Rest Camp, 60 were sent down by convoy to Bloemfontein, and the rest were accommodated in the Dutch Church which was then taken over and turned into a hospital.

On the 17th May the Town Hall was taken and patients placed in it. It was small and inconvenient and very unsuitable for a hospital and was only used because of the great pressure for room existing at the time. 70 patients were temporarily placed there, but the building was only used as a hospital for four days and was then closed. During these few days the men there, or most of them, had mattresses to lie upon, but they must have suffered considerable discomfort. When the hall was given up the patients in it were moved to the Dutch Church. During the temporary occupation of this town hall no separate doctor was in attendance and the patients had to be looked after by the doctors attached to other buildings when they could be spared.

The Dutch Church was first taken and used as a hospital about the 20th May. It was the best building in the town available for the purpose, being large and airy. There was a difficulty originally in ventilating it properly owing to most of the windows being permanently closed, but this difficulty was overcome by the tops of the windows being broken. The church had not a stone floor, as was stated inadvertently by Mr. Burdett-Coutts; it had a wooden floor and the building stood in a large and airy compound which was soon utilised for the sick and wounded by tents being placed in it. For this purpose the compound was very suitable. It had not been used as a burial ground, as has been suggested, but was a perfectly sanitary and good site. Mattresses were obtained for all the patients as they were moved into this church.

In these ways accommodation of a rough kind was provided for all the sick and wounded in Kroonstad. For the first few days after its occupation there were very few doctors in the town, though their number has been somewhat understated by some witnesses owing to their not being aware of, or forgetting, the existence of the doctors in the Boer hospital. At first there were only five doctors in the town. Then shortly afterwards, and before the 25th May, two more doctors arrived. But these were too few in number to properly look after the number of sick and wounded in the town. Orderlies, and especially trained orderlies, were also insufficient in number, and could not cope properly with their duties. There was also an insufficiency of bedpans, commodes, urinals, and so forth. These deficiencies of necessity led to results similar to those which we have pointed out with regard to Bloemfontein in its early days and need not be repeated here. On the other hand, there appear to have been at Kroonstad sufficient medicines, medical appliances, and comforts, such as brandy, wine, jellies, &c.

Owing to the above condition of matters, and also to the fact that Kroonstad itself was for some time threatened by the enemy, it became advisable that all patients who could stand the journey should be removed by convoys to the rail-head for the purpose of being sent down by rail to Bloemfontein. For some time the rail-head to which they were sent was the station at Zand river, the railway between that and Bloemfontein being ready at a comparatively early date. Accordingly, patients were selected to be sent down. The best selection we believe was made that circumstances permitted; at any rate, we are satisfied that the medical officers did their best to judge fairly as to the condition of those selected for the journey, though, of course, in individual cases mistakes may have been made. The men were sent down with such provisions for their comfort during the journey as could in the emergency be provided. But at times (especially when the enemy threatened the town and the lines of communication) the convoys had to be sent hurriedly, and the provisions for their journey down could not be made in a satisfactory way. To many men in some of these convoys there must, of necessity, have been considerable suffering caused during the journey, but as a whole they bore the journey well. Surgeon-General Wilson in his evidence says that he saw them on their arrival at Bloemfontein up to the date he left that town and that they arrived in a satisfactory condition. But it was not always possible to send any convoys away, owing to the interruption of the lines of communication by the enemy. For example, on the 20th May, a convoy had been arranged to start with 200 men in it for Bloemfontein, and the men were put into the wagons prepared. It was then found impossible for the convoy to be sent with safety and the men had accordingly to be shifted and accommodated again in the town.

On the 22nd May the advance of Lord Roberts from Kroonstad commenced, and of course the field hospitals, having to accompany the troops, were cleared of patients who had to be accommodated elsewhere. All the field hospitals did not accompany the advance, inasmuch as one-half of the 18th Brigade Field Hospital had to remain behind until the general hospitals could be got up to Kroonstad. We have evidence as to the state of the buildings occupied as hospitals at the date of the advance. According to Major Ford it appears that in the Grand Hotel there were 174 patients with one medical officer and 20 orderlies (mostly untrained) to attend upon them. In the Kroonstad Hotel there were about 25 officers and 170 men to be attended to. In the Dutch Church and Compound there were 200 patients, 90 being in the church itself; to attend to these there were two medical officers and four trained orderlies, the rest being merely regimental. In the Russo-Dutch Hospital there were 20 officers and from 80 to 100 soldiers with two doctors to attend. This does not show a satisfactory state of things.

By the 25th May the railway line up to Kroonstad was made fit for traffic and on or about this day the first train from Bloemfontein arrived. The opening of railway communication greatly relieved the pressure of things in Kroonstad. Surgeon-General Wilson came by the first train and brought up the *personnel* of the Scottish Red Cross private hospital, and the staff and equipment of half of No. 3 General Hospital, the remaining half arriving shortly after. He also brought some nurses, orderlies, and hospital equipment. On the 26th May there were sent from Bloemfontein to Kroonstad 500 mattress cases; on the 1st June 200 beds were sent up, and 300 more on the 6th.

No. 3 General Hospital on its arrival helped to supply beds for such patients in the buildings used as hospitals as had up to that time only had mattresses to lie upon. Part of the staff of this general hospital took over the Dutch Church from the 18th Brigade Field Hospital, which then advanced and joined the army at the front. No. 3 General Hospital opened and took in about 140 patients on the 28th and 29th May. In this hospital, for the first few days after its occupation slight cases had to remain in bell-tents lying on mattresses. The severe cases were accommodated in marquees.

Professor Henry Edward Clark, chief surgeon in charge of the Scottish Hospital, in his evidence shows how urgently aid was needed at Kroonstad on the 25th May when he arrived. He found all the buildings which had been taken as hospitals overcrowded; for instance, he found men in the Grand Hotel lying on and under the billiard table and on the settees and floors. All had mattresses, but three-fourths of them had no bedsteads to lie on. Owing to the lack of orderlies and utensils he found that some men had remained unwashed for some few days and that their clothing remained unchanged, even, in a few cases, when foulen by evacuations. He further says that sometimes men could not get proper comforts and that there was a temporary deficiency of certain medicines, and he adds that this condition of affairs lasted till about the 2nd June. Dr. Cowan, of the same hospital, however, points out that the very severe cases were attended to, and other witnesses show by their evidence that all essential drugs were forthcoming.

Immediately the railway was opened patients were sent down by it to Bloemfontein both from the buildings and from the field hospitals. For this purpose the hospital train, which had been telegraphed for by Surgeon-General Wilson immediately on his arrival in the town, was used for the conveyance of severe and bad cases, and the men in these hospital trains could be, and were, sent to Bloemfontein with comfort. Cases not so severe had to be, and were, sent by ordinary trains. A selection was made as to the men to be sent down and as to the kind of train by which they should travel. As a rule, we think that proper food and comforts were provided for the men on their journey, though there have been some complaints in certain cases where food and proper comforts are said to have been insufficient. No doubt cases of the kind did occur, though not, we think, frequently. In the case of the ordinary trains, owing to lack of better carriages, some patients had to be sent down in open trucks. These were slight and non-fever cases. Some of these trains had no doctor or trained orderlies accompanying them, for the reason that at Kroonstad at the time there were none available to send. But in these cases regimental orderlies were sent, and some of these being medical students who had volunteered were very suitable for the purpose. The food and comforts necessary for the journey were committed to the care of the senior non-commissioned officer accompanying the train. However, at times there must undoubtedly have been considerable suffering in these trains.

In one respect Kroonstad differs from Bloemfontein, inasmuch as from its very first occupation commandeering was resorted to, and in this way most necessaries were obtained for the hospitals. We think, however, that with regard to a few things commandeering was not pushed to the full extent that it might have been.

On the day after Kroonstad was first occupied the landrost was told to commandeer for 200 mattresses and 400 blankets. He did so and obtained the quantities required and even more, and these were put into the Dutch Church. The landrost also obtained stretchers and had more made. He further commandeered for and obtained many bedsteads and much linen. Still there was a delay in obtaining a few articles; for example, more bedsteads might have been obtained at an earlier period. Professor Clark says that some beds were required by his hospital and were bought by his junior officer in the town as late as the 10th June. We can only attribute this delay in the early days to the confusion caused by the military occupation of the town and the fact that the medical officers were wholly occupied with looking after the sick and wounded. But this does not explain the later delay, unless, indeed, the landrost's explanation be correct—namely, that more bedsteads were not commandeered or ordered because, even had they been obtained, there was no room for them at the time in the buildings which were then occupied. At the same time, as Professor Clark points out, the patients did not appear to suffer to any serious extent from the lack of bedsteads, and he endorses the statement that several of the rooms in the building which had been taken and which were being used could not have accommodated so many patients if more bedsteads had been used.

With regard to fresh milk there was the usual deficiency, but though a few individuals in the town may have been able to obtain some we think on the evidence as a whole that no substantial increase of milk could have been obtained by the medical authorities.

By the 3rd June the trains had removed so many patients that the overcrowding in the town was greatly reduced, and by the 8th June its troubles were to a great extent over. It is clear from Colonel Richardson's evidence that there were at Kroonstad, from and after the 9th June, ample supplies of all kinds for the hospitals at Kroonstad. All witnesses are practically agreed that by the third week in June matters were put on a satisfactory footing and the grounds of complaint to which we have called attention disappeared. As things improved the buildings which had been taken were gradually cleared of their patients. The Kroonstad Hotel was cleared on the 21st June, the Russo-Dutch Hospital on the 27th June, the Dutch Church on the 31st July, and the Grand Hotel (which had only been used for officers from the date of the arrival of No. 3 General Hospital) on the 31st August, shortly before the Commissioners arrived there.

We have investigated the subject, and on the whole, bearing in mind the difficulties in the way, we think there was no undue delay on the part of the medical authorities in getting up the general hospitals. As we have pointed out, No. 3 General Hospital arrived practically on the very day the railway was opened, and could not have been got up earlier. The Scottish private hospital arrived on the 27th of May, complete except as to some huts which were heavy and which arrived soon after, and it opened on the 4th June.

We do not think, looking at the position of matters, that blame can rightly be attached to the medical authorities for not sending up, before the railway was opened, doctors, trained orderlies, or nurses, in carts (as it has been suggested they might have done), even assuming doctors and trained orderlies to be available for the purpose. The fact that it was possible for a private individual like Mr. Burdett-Coutts to get up to the town with cart and mules does not, we think, justify an inference that it was practicable for the authorities to have sent up staff in this way.

As already pointed out from the evidence of Lord Roberts it is clear that the amount of sick and wounded at the time of the first occupation of the town was more than could have been reasonably anticipated.

The troubles at Kroonstad which we have pointed out were undoubtedly chiefly due to three causes—namely, the insufficiency in number of the field hospitals, the deficiency of the Royal Army Medical Corps staff, and the difficulties of transport.

JOHANNESBERG.

The army left Kroonstad on May 23rd and reached Johannesburg on May 31st. No great difficulties arose on the march and the Commissioners state that there was no lack of suitable buildings for hospitals and that on the whole the patients therein were well looked after. There was a good deal of friction at the hospital in the Victoria Hotel which somewhat hampered its working.

PRETORIA.

Pretoria was occupied on June 5th and the report says:—

When the British force first occupied this town on the 5th June the field hospitals accompanying it brought with them many sick and wounded. There were good buildings which were suitable for hospitals and there was no difficulty in procuring hospital necessaries and equipment in the town, or from Johannesburg, which was within easy distance. Steps were at once taken to prepare and equip some of the buildings, in which many of the patients were placed, but the equipment put in was in many respects deficient at first, and there was a delay of several days on the part of the medical authorities in remedying this deficiency. Moreover, the best building in the town, the Palace of Justice, was not taken for a hospital as quickly as it should have been. Surgeon-General Stevenson's explanation on this head is that he had, immediately on his arrival with the forces, considered the advisability of taking that building as a hospital, but thought he had sufficient other buildings available, and that there might be a difficulty in warming and ventilating such a large place, and he so informed Lord Roberts when the latter suggested its being taken. But on or about the 13th June the question was reconsidered. There is a little discrepancy between some of the witnesses on this subject as to how ultimately it came to be taken, but that is a matter of but slight importance. The essential fact is that shortly after the 13th June it was taken and equipped by the army medical and military authorities and the care of it was then committed by Lord Roberts to the Irish Hospital, of which Sir William Thomson was the chief surgeon in charge. That hospital had come on with the advancing force from Johannesburg and immediately on its arrival at Pretoria had pitched its tents on the racecourse, and had to keep, or take in and temporarily provide for, rather over 100 patients, whereas it was equipped at that time for only 50. It was originally equipped for 100 patients, but half of the staff had been left behind at Bloemfontein. For some few days, therefore, in this hospital on the racecourse only 50 patients could be provided with mattresses and stretchers to lie upon, the remainder of the patients having only their blankets and waterproofs. But Sir William Thomson, who was in charge, says that the weather was dry at the time and that no suffering ensued.

There is some difference of opinion amongst the witnesses as to whether or not other buildings might have been taken as hospitals as, for example, some of the hotels and churches; but having regard to the difficulty of warming, lighting, and staffing them we think on the whole that there was no want of judgment displayed by the medical authorities in selecting such buildings only as were in fact taken.

For some days after the first occupation of the town there were undoubtedly deficiencies experienced in the hospitals of many material things, and in particular of beds, mattresses, bed-pans, commodes, cups, and similar articles. For example, it appears from the evidence of Sir William Thomson and Mr. Murray Guthrie, M.P., that the Irish Hospital, which arrived on the 6th June, was for some days short, not only of mattresses and stretchers but also of change of clothing for the men, who had accordingly to be kept in their khakis, and that the men suffered in consequence.

As already pointed out, we think that many of these deficiencies might or should have been made good by the medical authorities earlier than they were, for the things required might have been obtained in the town or from Johannesburg, except such articles as bed-pans and commodes, which apparently could not be obtained at all.

There is some evidence to the effect of deficiency in respect of drugs, dressings, and blankets in the hospitals in the town, but on the whole we think that these articles were not wanting to any substantial extent, though in a few cases a deficiency was experienced for a short time. For example, there was a shortage of blankets in the 14th Brigade Field Hospital, owing to the number of sick that was sent into the hospital from the Boer prisoners and the British released prisoners, who had with them no blankets at all. Major Faunce, the principal medical officer of that hospital, was told by Surgeon-General Stevenson to purchase or otherwise obtain in the town such blankets as might be required, but finding that Mr. Murray Guthrie, on behalf of the committee which we shall presently mention, had bought up all the blankets in the place, he bought plushette, which he cut up and made into suitable coverings for the men. When the Palace of Justice was taken as a hospital a large supply of cots, mattresses, and blankets for it were obtained from contractors in the town. And after the lapse of about 10 days from the first occupation of the town Lord Roberts appointed a committee consisting of Mr. Murray Guthrie, Sir William Thomson, the Honourable Rupert Guinness, and Mr. Wood, who bought for the authorities and supplied to the hospitals most of the equipment which was then deficient. This committee sent a circular round to the various hospitals in the town informing the medical officers that any deficiency in their equipment could be remedied by application to the committee, and the hospitals appear to have availed themselves freely of the opportunity thus afforded.

For some time after the occupation of the town there was also an insufficient number of doctors and of orderlies, especially trained orderlies. There was also an insufficient number of nurses for a time, but we do not think that this state of things could have been remedied easily, having regard to the fact that the communications with the town were interrupted by the enemy and that there were considerable risks attending the transport of nurses. But the deficiencies we have mentioned were at any rate to a great extent made up directly the condition of the railway permitted fixed hospitals being transmitted, and on the whole we think there was no undue delay on the part of the authorities in regard to this.

On June 30th Surgeon-General Wilson arrived and brought with him a full supply of beds and other articles. Thereafter all substantial grounds of complaint ceased, and at the time we arrived in the town we found nothing concerning the care of the sick and wounded which could form fair or substantial matter for complaint.

Notwithstanding the temporary deficiencies after the first occupation of Pretoria above pointed out we are able to say that the condition of things there was much better than that existing at Bloemfontein and at Kroonstad after these places were first taken by the British. We believe that after a time no considerable hardships were endured by the sick and wounded in Pretoria and scarcely any complaints have been made with regard to their treatment.

Having regard to some of the evidence given we think it advisable to add a few words upon the sanitary arrangements in the town. There was no existing system of drainage and consequently, from this point of view, and for some time, the arrangements with regard to sanitation were not satisfactory. After a short period, however, Dr. Turner, the medical officer of health to the Cape Government, was consulted on the subject by Lord Roberts and authorised to deal with the sanitation, and under him matters were soon remedied. But previously to his appointment great need existed for a good expert sanitary officer to properly supervise the town and the camps, &c., and also to select proper and healthy sites for the troops to camp upon. This need of a good sanitary officer who should have authority, amongst other things, to select suitable and healthy sites for camps is shown by a statement made by Dr. Turner in his evidence that a very insanitary site was selected for the Welsh Regiment on its arrival which might have led, if it had not been changed, to considerable sickness being developed in that regiment.

After a few general remarks as to the care of the sick and wounded at the front the report goes on to consider the question of the conveyance of patients to and from fixed hospitals. With regard to this point the Commissioners say:—

Many complaints have been made, and many cases of hardship referred to, in connexion with the circumstances under which patients have been removed to and from the hospitals. We have already dealt to a certain extent with some of these cases under previous heads, especially with reference to patients being sent by convoys from the front. As already appears, beyond question considerable hardships had on many occasions to be endured by the men. Where the railway could be employed in their removal they naturally had to submit to comparatively few privations, but complaints are forthcoming with regard even to the train service. No doubt there are cases where inconveniences or even hardships have had to be endured by the sick and wounded conveyed by railway. The most severe cases, however, were always sent by the hospital trains when available. These were very well equipped and the men in them were well looked after. Others had to be sent in ordinary carriages and on occasions some convalescents had to perform the journey in trucks, owing, first, to the deficiency of suitable carriages, and, secondly, to the necessity of hurriedly relieving the congestion at the front, even at some risk to the men, as being the lesser of two evils. In these cases undoubtedly at times the patients must have suffered. An example is given by Dr. Jones, civil surgeon, of a convoy of convalescents arriving from Bloemfontein at Norval's Pont on the 10th June. These men had been 18 hours in open trucks on the way, some of them being convalescents from dysentery and enteric fever. The witness points out the deleterious effect the journey had upon them and states that one died five days afterwards from bronchitis. But though we cannot regard this as an isolated instance we have had the testimony of a great many patients who were conveyed by railway under various conditions, and we think that the cases in which such hardships as we have indicated were endured were not numerous and in most instances could not be avoided.

We have already dealt, under the head of Bloemfontein, with cases of ordinary railway carriages containing convalescents being sent down without the provision of proper blankets and how this was after a time remedied. We find complaints about similar cases where men were sent down without suitable arrangements for relieving themselves in cases of necessity between the stations; also statements as to the trains conveying them being occasionally foul and evil-smelling; as to the insufficiency of food during some of the journeys, and, in a few instances, as to want of attention to the patients at the intermediate stations during the journey. Cases of the kind no doubt did occur. Professor Chiene points out in his evidence how, in the matter of food, in the case of journeys by ordinary carriages, the patients' wants might have been relieved by placing a portable stove in the train, though this course did not apparently recommend itself to the medical authorities. But at most stations on the railway through which the sick and wounded had to pass the medical authorities provided medical comforts in sufficient quantities to supply the men, and before the men started on any journey they were, as a rule, well supplied with such comforts as well as with proper food. We have also already pointed out the existence of cases where, owing to the insufficiency of the medical staff, some convalescents or patients had to come down from the front without being accompanied by a medical officer or by trained orderlies; but these cases were not very numerous, and the men were generally able to a great extent to look after themselves, though, no doubt, there were individuals who suffered.

Speaking generally, though the hardships or inconveniences endured by some of the men in the cases above mentioned ought not to be made light of, we think, judging from the large number of witnesses who gave evidence on the subject, that as a rule the men were well looked after during their conveyance from the front, especially bearing in mind the conditions existing. This view of the case is supported by the fact that the mortality arising from these journeys was remarkably low, as appears from the following returns of the principal medical officer at the base (*vide* Appendix—*Supple* 1):—From commencement of the campaign to Sept. 1st, 1900: total number of sick and wounded sent down from the front in ambulance trains, 11,866; number of deaths in ambulance trains in transit, 14; number of deaths within two days of arrival at the base hospitals in ambulance trains, 20; total number of sick and wounded sent down from the front in ordinary trains, 10,867; number of deaths in ordinary trains in transit, *nil*; number of deaths within two days of arrival at the base hospitals in ordinary trains, one.

Touching the hospitals on the lines of communication the Commissioners say that there were not many complaints, but as regards Sterkstroom and Norvals Pont they find that there was good cause for the complaints. Sterkstroom at the time during which the causes of complaint arose was only a field hospital which had to be used as a fixed hospital. Concerning the deaths of three volunteers in the Kaffrarian Rifles the report says:—

As to one of these volunteers, a painful dispute arose with regard to his coffin, which it is not necessary for us to dwell upon. These deaths certainly occurred under very regrettable circumstances and formed the subject of much indignant comment in the local newspapers, and the correspondence relating to the subject was forwarded to the Commander-in-Chief. Without endorsing to the full the complaints against the hospital, still, after making allowances for the fact that it was only a field hospital, we are satisfied that its management and condition were not satisfactory.

NORVALS PONT.

The Commissioners say:—

The complaints as to the stationary hospital for some time after its opening show that its condition was far from satisfactory. It was deficient in bedsteads, bed-pans, commodes, feeding cups, basins, and similar articles, and according to some witnesses was lacking for some days in apparatus such as is to be found in well-equipped hospitals. For some time, also, this hospital had but few nurses or properly trained orderlies, and the attendance on the patients appears to have been accordingly somewhat lax. The deficiencies we have mentioned caused the inconveniences and hardships usually flowing therefrom. For example, the lack of sufficient commodes and bed-pans led to several enteric and dysenteric fever patients having to go long distances from their tents to the latrines, which were themselves not properly equipped or kept. It is right to state that the latrines were after some short delay moved nearer to the tents and were then properly provided with buckets, seats, and disinfectants.

BASE HOSPITALS AND HOSPITAL SHIPS.

These were satisfactory, even the much-abused Woodstock Hospital being in the opinion of the Commissioners suited to its purpose. There were bugs, but they did not materially affect the patients. Speaking generally of the base hospitals the Commissioners say:—

Base Hospitals Generally.

We need not dwell on the base hospitals (properly so called) in Cape Town or the neighbourhood, there being nothing in our opinion beyond what we have already stated which calls for special comment or forms just matter of complaint. These hospitals, or most of them, were visited by us, and with regard to each hospital as it existed at the time of our visit there will be found in the Appendix a short account prepared by our medical members (*vide* Appendix—*Church and Cunningham*). Speaking generally, the condition of these base hospitals appears to be well summed up by Colonel Cooper, the staff commander at the base, who visited the hospitals constantly at the time of greatest pressure. In speaking of the patients he says: "They were all housed and all had good mattresses to lie on, and were well looked after—much better than I have ever seen on service elsewhere." And in answer to the question: "Have you ever seen as much done for the sick and wounded as in this campaign?" he said, "Never. It was a revelation to me when I arrived here to go round the Wynberg Hospital." This favourable view of the base hospitals as a whole is corroborated by the fact that from the commencement of hostilities up to the 21st August last there were admitted therein 31,305 patients, and that only 362 deaths occurred out of this number, being an average of 1·15 per 100 (*vide* Minutes of Evidence—*Colonel Supple*). But there are some places in the neighbourhood of Cape Town which were not, properly speaking, used for the purposes of base hospitals, but which we may properly deal with under the present head. At these places some sick and wounded were tended, and much complaint has been made about their treatment, the complaint in our opinion being to a great extent made with good cause. We refer particularly to McKenzie's Farm and Maitland Camp, and they require some detailed consideration.

As regarding McKenzie's Farm and Maitland Camp they were neither of them intended for a hospital originally, and—

until McKenzie's Farm was changed into a hospital it was not, nor was Maitland Camp, suitable for the retention of sick men who ought to have been accommodated in proper hospitals, as in these camps they could not receive the full care and attention they needed. At Maitland Camp at one time for a few days matters were made worse by the illness of the civil surgeon there. The retention of sick men in these camps naturally caused suffering and formed the ground for substantial complaint. There were no proper beds for the sick and, of course, no nurses and for some time no properly trained orderlies. It is much to be regretted under the circumstances that the offer of Mrs. Wakefield to provide accommodation for the patients at Stellenbosch, to which we have referred, was not accepted by the medical authorities, as it would, at any rate to a certain extent, have relieved the pressure at the base hospitals and enabled some of the men detained in these camps to have been sent away. This was the more regrettable as in the camp at Stellenbosch, where at that time there was no hospital (though a good one was subsequently established there), some patients were being kept who ought to have been sent into a proper hospital and who had ultimately to be sent to McKenzie's Farm.

NATAL.

With regard to Natal the campaign there, so far as regards the sick and wounded, was conducted under much more advantageous circumstances than that in the Orange River Colony and the Transvaal. The railway was always available and therefore field hospitals did not have to be converted into fixed hospitals. The Commissioners proceed:—

To a great extent, by reason of the advantages above pointed out, we found but few substantial complaints about the campaign in Natal as compared with the campaign elsewhere. But the deficiency in the staff of the Royal Army Medical Corps at the outbreak of hostilities and the want of appreciation by the authorities of the forces necessary to carry the war to a successful conclusion were felt also in Natal. The army stationed in Natal at the outbreak of the war and which was first landed after war was declared came out with its proper units, that is to say, with its regimental doctors and with the field hospitals and bearer companies complete, but with no provision for base or general hospitals. As the army increased the difficulty was felt of providing a sufficient supply of doctors and properly trained orderlies and for a time there was an undoubted deficiency. Moreover, the general hospitals were not forthcoming as early as they should have been. But owing to a great extent to the energy displayed by the principal medical officers in Natal and the steps taken by them the deficiencies were made up with commendable promptitude. We may in particular refer to the evidence of Colonel Gallwey, Royal Army Medical Corps, as showing the good work done by that officer in Natal and as giving details as to the establishment there of the hospitals and the supply of civil surgeons, orderlies, men for the bearer companies, and nurses, details which we need not repeat in the body of this report. All necessaries for the sick and wounded were either obtained from the base or were bought promptly on the spot, though there was some delay in obtaining a sufficient supply of bed-pans and commodes. The Red Cross Society materially assisted by gifts of comforts. Speaking generally, we think that the sick and wounded in Natal were well cared for.

LADYSMITH.

In Ladysmith there was naturally a very great strain. Many of the medical officers broke down and at one time there were over 800 enteric fever patients and over 300 cases of dysentery, all of an aggravated type. There were only 69 in all of the Royal Army Medical Corps and of these 17 were in hospital at once, mostly suffering from enteric fever. The nurses exhibited much devotion.

HOSPITALS ON LINES OF COMMUNICATION.

The hospital at Pietermaritzburg was an old building and dirty. It was also overcrowded and understaffed at first. The linen was occasionally not properly washed.

As to the complaint that the principal medical officer in Natal had refused to form a convalescent camp, which was much needed, the Commissioners say:—

His critics appeared to be ignorant of the existence at the time they were referring to of a large convalescent depôt which had been established by him for 50 officers and 1500 men with all proper comforts and necessaries (*vide* Minutes of Evidence—*Colonel Gallwey*, Question 13,968). It was owing to the existence of this large convalescent depôt that when a small convalescent depôt was offered to him by certain local authorities, coupled with the condition that it should be staffed by the principal medical officer, he declined the offer, his reason being that he could more usefully employ his staff elsewhere. However, he offered to pay the local authorities for farming out convalescents at the rate of 4s. a day for privates and 6s. for officers and nurses, and this offer was accepted and the arrangement carried out. We do not think the principal medical officer can properly be blamed for his action in the above matters, nor do we think we need dwell upon a dispute which arose between the principal medical officer and some local authorities on a question whether certain refugees employed as orderlies should be clothed at the expense of the Imperial Government.

PART IV.

SUGGESTIONS WITH A VIEW TO REMEDYING DEFECTS.

These suggestions, which have already appeared in our issue of Feb. 2nd, are as follows:—

In previous parts of this report, and especially in Part II., we have mentioned several matters connected with the Royal Army Medical Corps as at present constituted, and the care of our sick and wounded, in which improvements are required. The extent to which, and the way in which, these improvements can practically be made, require detailed and careful consideration by military and medical experts. We recommend the appointment at some early convenient time of a departmental or other committee of experts to inquire into and report upon the steps needed to effect the following objects:—

1. The establishment of the staff of officers and orderlies of the Royal Army Medical Corps, and its equipment, on a scale sufficient to enable it to discharge adequately the duties ordinarily cast upon it in times of peace and by the smaller wars in which the Empire by its vast extent is so frequently engaged.

2. Regulations and provisions which will enable surgeons and trained orderlies in sufficient numbers to be rapidly obtained and added to the ordinary staff of the Royal Army Medical Corps in the event of a great war; and that will also ensure a rapid supply of all hospital and other equipment required for the due care of the sick and wounded in such a war.

3. The attraction to the Royal Army Medical Corps of a sufficient and regular supply of officers of good professional attainments. And the improvement of the position of the officers by the allowance of sufficient holidays; and by provisions enabling them to become adequately acquainted with the advancements in medical and surgical science; and the necessity of employing in the higher posts men selected for their merits rather than by seniority.

4. The employment, to a greater extent than that recognised and practised until the later stages of this war, of nurses in fixed hospitals for the care of the wounded and of fever and dysenteric patients, and such others as can properly be nursed by females.

5. The appointment of properly qualified officers of the Royal Army Medical Corps to undertake sanitary duties.

And with regard to other matters:—

6. The improvement of the existing ambulance wagons.

7. The selection and employment of the form of hospital tents best suited for the reception of sick and wounded in a campaign.

We also think that the committee might usefully consider the following questions, on which we ourselves express no opinion beyond what appears in Part II. of this report:—

(*a*) Whether it is advisable and practicable to some, and if any what, extent, that the Royal Army Medical Corps should have exclusive possession of and control over all necessaries for the sick and wounded (other than ordinary food and clothing, not being hospital clothing), so as to avoid the necessity of requisitioning upon the Army Service Corps or the Ordnance authorities.

(*b*) Whether the administrative and clerical duties of the principal medical officers can be lightened and in particular to what extent the reports and returns which have to be made can and should be shortened.

(*c*) Whether the men of the bearer companies, when not engaged on the field, could be employed to assist in the field hospitals, and whether with this object it is advisable that the staff of the bearer company and of the field hospital of a brigade should be under one chief officer.

(*d*) Whether in times of peace a regimental doctor should be attached to each regiment for some fixed time.

(*e*) Whether general hospitals could be advantageously divided into smaller units.

(*f*) Whether it is practicable and advisable that the reception and distribution of all charitable gifts for the sick and wounded should be by some organised body on their behalf; and if so, what that body should be.

The following are not matters for inquiry by the suggested committee. It will be sufficient if the attention of the Royal Army Medical Corps be specially called to what we are about to state, with a view to our recommendations being acted on.

Having regard to what we have said on the subject in Part II., we think that strict inquiry should be made in the various military hospitals in South Africa and proper steps be taken in order to stamp out, where it exists, pilfering by orderlies of the stimulants, comforts, or property of patients, and the receipt of bribes by orderlies from patients.

We also suggest that the officers should, so far as it is possible and consistent with due discipline to do so, relax the strict military rule generally adopted in military hospitals, so as to give an additional feeling of ease to the patients and enable them to better appreciate the comforts of a hospital.

The power and duty of every officer in this campaign in cases of emergency to buy for his hospital at the expense of the Government any necessary not in hospital and not procurable without delay elsewhere has been fully recognised by the authorities, and the power has been by many freely exercised. But, as we have already pointed out, some officers appear not to be fully acquainted with the existence of the power, and it is advisable that it should be made widely known that any exercise of that power will be favourably viewed by the authorities, unless, of course, in cases of its abuse.

ERRATUM.—In Part II. of our abstract of the Report of the Royal Commission on South African Hospitals which appeared at page 652, col. 2, in our issue of March 2nd, the word "Kimberley" in the paragraph commencing "The present article only deals with ....." should be "Bloemfontein."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6697 births and 4858 deaths were registered during the week ending March 2nd. The annual rate of mortality in these towns, which had been 19·5 and 21·2 per 1000 in the two preceding weeks, further increased to 21·5 last week. In London the death-rate was 20·9 per 1000, while it averaged 21·9 in the 32 large provincial towns. The lowest death-rates in these towns were 13·9 in Leicester, 14·1 in Oldham, 15·3 in Huddersfield, and 15·5 in Croydon; the highest rates were 25·4 in Halifax, 26·0 in Wolverhampton, 30·1 in Liverpool, and 38·2 in Plymouth. The 4858 deaths in these towns included 395 which were referred to the principal zymotic diseases, against 347 and 387 in the two preceding weeks; of these 129 resulted from whooping-cough, 109 from measles, 62 from diphtheria, 47 from diarrhœal diseases, 25 from "fever" (principally enteric), and 23 from scarlet fever. No death from any of these diseases occurred last week in Croydon; in the other towns they caused the lowest death-rates in Norwich, Halifax, Bradford, and Newcastle, and the highest rates in Bristol, Liverpool, Blackburn, and Sunderland. The greatest proportional mortality from measles occurred in Portsmouth, Liverpool, and Hull; and from whooping-cough in Plymouth, Bristol, Cardiff, Swansea, Derby, and Sunderland. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 62 deaths from diphtheria included 19 in London, seven in Sheffield, 6 in Birmingham, five in Bristol, and five in Salford. No death from small-pox was registered last week in any of the 33 large towns, and only one case of small-pox remained under treatment in the Metropolitan Asylums hospitals on Saturday last, March 2nd. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1823, against numbers decreasing from 2535 to 1834 on the nine preceding Saturdays; 185 new cases were admitted during the week, against 145, 142, and 162 in the three preceding weeks. Influenza was certified as the primary cause of 35 deaths in London last week, as compared with 12, 16, and 32 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 397, 420, and 493 in the three preceding weeks, further rose last week to 501, but were 58 below the corrected average. The causes of 72, or 1·5 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Cardiff, Leicester, Nottingham, and in 11 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Halifax, Sheffield, Sunderland, and Gateshead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 22·6 and 23·7 per 1000 in the two preceding weeks, further rose to 24·5 during the week ending March 2nd, and showed an excess of 3·0 per 1000 over the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 13·4 in Perth and 17·6 in Aberdeen to 27·0 in Glasgow and 28·3 in Dundee. The 768 deaths in these towns included 67 which were referred to whooping-cough, 23 to diarrhœa, 13 to measles, 12 to small-pox, four to scarlet fever, two to diphtheria, and one to "fever." In all, 122 deaths resulted from these principal zymotic diseases, against 106 and 99 in the two preceding weeks. These 122 deaths were equal to an annual rate of 3·9 per 1000, which was 2·2 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 33 and 36 in the two preceding weeks, further rose last week to 67, of which 43 occurred in Glasgow, 11 in Dundee, eight in Edinburgh, and three in Aberdeen. The deaths from diarrhœa, which had been eight and 16 in the two preceding weeks, further increased to 23 last week, and included seven in Glasgow, seven in Edinburgh, four in Dundee, and three in Aberdeen. The deaths from measles, which had been 25 and 19 in the two preceding weeks, further declined last week to 13, of which five were registered in Edinburgh, five in Aberdeen, and two in Glasgow. The fatal cases of small-pox, which had been 11, 20, and 15 in the three preceding weeks, further declined to 12 last week, and all occurred in Glasgow. The mortality both from diphtheria and from "fever" showed a marked decline from that recorded in recent weeks. The deaths referred to diseases of the respiratory organs in these towns, which had been 153 and 177 in the two preceding weeks, further rose last week to 184, but were 140 below the number in the corresponding period of last year. The causes of 40, or more than 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 34·3 and 33·7 per 1000 in the two preceding weeks, rose again to 46·6 during the week ending March 2nd. During the past four weeks the death-rate in the city has averaged 37·2 per 1000, the rates during the same period being 19·9 in London and 21·5 in Edinburgh. The 309 deaths belonging to Dublin registered during the week under notice were 85 more than the number in the preceding week and included 12 which were referred to the principal zymotic diseases, against 16, 10, and 11 in the three preceding weeks; of these, five resulted from whooping-cough, three from "fever," two from diarrhœa, one from measles, and one from diphtheria. These 12 deaths were equal to an annual rate of 1·8 per 1000, the zymotic death-rate during the same period being 1·6 in London and 3·7 in Edinburgh. The fatal cases of whooping-cough, which had been nine, three, and three in the three preceding weeks, increased to five last week. The deaths

referred to different forms of "fever," which had been five, two, and four in the three preceding weeks, declined again last week to three. The two fatal cases of diarrhœa showed a decline from the number in the preceding week. The 309 deaths in Dublin last week included 35 of children under one year of age, and 117 of persons aged upwards of 60 years; the deaths of infants corresponded with the number in the preceding week, but those of elderly persons showed a very large excess. 14 inquest cases and five deaths from violence were registered; and 122, or nearly two-fifths, of the deaths occurred in public institutions. The causes of 12, or nearly 4 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Surgeons: H. L. Norris to the *Isis*, A. J. Laurie to the *Jason*, and T. H. Vickers to the *Alexandra*.

ROYAL ARMY MEDICAL CORPS.

Major J. G. Black is appointed to the charge of the Station Hospital at Devonport vice Major Wilson. Lieutenant-Colonel B. B. Connolly, A.M.S. (retired), is selected for appointment to the medical charge of the new Recruiting Depôt, New Cross-road.

THE DEBATE IN THE HOUSE OF LORDS.

It is some time since the House of Lords has been the scene of such an animated and brilliant debate as that which has been taking place during the present week in connexion with the relations of the military and civil branches of the War Office. The question raised by Viscount Wolseley as late Commander-in-Chief of the Army is one which may be termed a root question, because it goes down to the principles of constitutional government on a Parliamentary system. But it was, no doubt, the personal side of the controversy between his lordship and the Marquis of Lansdowne, the late Secretary of State for War, that gave rise to the extreme interest manifested and imparted a peculiar piquancy to the debate. It may be said that Lord Wolseley brought an indictment against a system; but Lord Lansdowne, in the course of his reply in its defence, preferred an indictment against the late Commander-in-Chief. There the matter ends for the present, but only for the present. What interests us, however, is confined within much narrower limits—namely, the side-light that it casts on the charges made against the medical service in South Africa. The debate shows one thing clearly enough—that the authorities at the War Office made all their preparations (which might have been, and probably were, good enough and even ample for the force originally intended and sent out) on far too small a scale as it turned out. As nobody seemed to have had any idea of the magnitude and enormous difficulty of the task which was being undertaken followed as a matter of course that the force originally sent out, and the medical, transport, and supply branches which went with it, proved quite inadequate.

SOUTH AFRICAN NOTES.

Lieutenant Forbes-Winslow, R.A.M.C., and Civil Surgeon Mowatt have much improved (Pretoria, March 2nd).

Civil Surgeons J. Stevenson, G. L. Hayden, and R. B. Williams have been discharged from Hospital to duty.

Major C. Stonham, Imperial Yeomanry Hospital, and Civil Surgeon F. Green are returning to England in the *Harlech Castle* which left South Africa on March 2nd.

Captain C. E Douglas, R.A.M.C., and Civil Surgeons J. C. Hibbert, T. W. Atkins, R. W. Collum, W. Tarr, and W. H. Rowell left South Africa in the *Manhattan* for England on March 2nd.

Major L. Haywood, R.A.M.C., and Civil Surgeons A. B. Dunne, V. W. Low, and P. E. Adams have arrived in England.

DEATHS IN THE SERVICES.

Major Henry Ernest Hill Smith, R.A.M.C., on Feb. 22nd at Cairo, aged 39 years. He served with the Dongola Expeditionary Force under Sir Herbert Kitchener in 1896, including the engagement at Firket and the operations at Hafir (mentioned in despatches, British medal and Khedive's medal with two clasps, and the Fourth Class of the Order of the Medjidie). He also took part in the Nile Expedition of 1897, and was present at the capture of Abu Hamed (mentioned in despatches, two clasps). In the Nile Expedition of 1898 he was present at the battles of Atbara and Khartoum (mentioned in despatches and promoted major, two clasps).

MEDICAL AND SURGICAL AID FOR SICK AND WOUNDED OFFICERS.

The first report of the Duke of Abercorn's Committee, dealing with the work done during the year 1900, is dealt with in another column of the current issue of THE LANCET. The report mentions that "no applications were received from officers of the Royal Navy or of the Volunteers, though it should be understood that all the advantages of the fund were equally open to officers of these services."

H.M.S. "BRITANNIA," DARTMOUTH.

In consequence of an epidemic of influenza on the training ship *Britannia* at Dartmouth the Admiralty, acting upon the advice of the medical officer in charge, have granted the cadets three weeks leave of absence, dating from March 2nd. There have been about 40 cases of illness, with two deaths from pneumonia.

Correspondence.

"Audi alteram partem."

INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE.

To the Editors of THE LANCET.

SIRS,—The formation of an international catalogue of scientific literature, which was initiated by the Royal Society and has been the subject of several international conferences during the last few years, has at last been started and cataloguing is in active progress. It is hoped that all papers published on and after Jan. 1st of the present year will be indexed; the indexes will be two in number—viz., an author index and a subject index. Each participating nation will be responsible for the indexing of the papers published in that country, and the indexing for Great Britain and Ireland is in the hands of a British bureau. A central bureau is to collect, coördinate, and publish the labours of the various national bureaus. I am writing this letter in order to make these facts known more particularly to medical authors and to invite their coöperation in making the venture a success. The various recognised journals for the publication of original investigations will be carefully searched, but it is possible that even the most conscientious and painstaking indexer may inadvertently miss an important paper, especially if it is published in journals or books which are not readily accessible. In order to guard against such omissions may I request authors to send separate copies of their publications to one or other of the following gentlemen who are responsible for the sections of the medical sciences appended to their names?

Anatomy.—Professor G. D. Thane, University College, London.

General Biology.—Professor E. A. Minchin, University College, London.

Physiology (including Pharmacology)—Dr. W. A. Osborne, Physiological Laboratory, University College, London, or to myself at King's College, London.

Experimental Pathology.—Dr. T. G. Brodie, Examination Hall, Victoria-embankment, London, W.C.

Bacteriology.—Mr. S. G. Shattock, St. Thomas's Hospital Medical School, London, S.E.

Experimental Psychology.—Dr. W. H. R. Rivers, St. John's College, Cambridge.

If authors are not able to forward actual copies of their papers, a note of place and date of publication, with full title of the paper, should at least be sent. Authors would considerably lighten the work of the indexers if they were also to send an index slip with their papers, indicating under two or three main headings the subjects of which their papers treat. Full details respecting the work and publication of the index could be obtained by writing to the director of the central bureau of the

catalogue, Dr. H. Forster Morley, 34–35, Southampton-street, Strand, London, W.C.

I am, Sirs, yours faithfully,

W. D. HALLIBURTON.

King's College, London, March 4th, 1901.

THE RECENT HUNTERIAN ORATION: THE EVOLUTION OF MAN.

To the Editors of THE LANCET.

SIRS,—Possibly you may find space to allow me to mention one or two difficulties which crop up in perusing the markedly interesting and important details brought forward in this year's Hunterian Oration[1] touching the origin of the human race and the sources and physical characteristics of the European sections; and I ask light not so much in regard to what we now are as whence and how we came to be man.

Assuming that man and the apes are derived from an identical or kindred stock, if I understand Mr. Macnamara aright his view is that the departure of the one branch from the common stock leading to man with his vast intellectual predominance over the other primates was rendered possible by a retarded closure of the frontal sutures permitting of the anterior brain growth and evolution, while in the anthropoid apes the sutures continued to close early in life, "the anterior part of their brain not increasing beyond the size it had attained at the end of the first year," and the explanation of this imperfect evolution of their frontal lobes lying to a large extent in "the premature ossification of that part of the skull which encloses the fore-brain." But granting that the line of structural changes was such, does not a more important question lie behind it, to the originating and guiding force which rendered possible this divergence from the hitherto prevailing rule? At the time at which these two sections of higher animal life commenced to diverge presumably the skull features in the one closely approximated those in the others; presumably the change was not accidentally brought about, nor by abnormal divergence, but by a gradual physiological process not common to the whole stock but limited to the one section and not potential then or at any subsequent period in the anthropoid apes; what, then, was the intrinsic power or extrinsic conditions which brought about the structural change which permitted the one section to advance to man and the absence of which retained the apes in the lower stage of being?

An innate faculty to respond to external natural demands, and an environment necessitating an increased brain and higher function of an intellectual character and the organ responding thereto, provide an apparently rational explanation, but to permit of it the bony cranium must accommodate itself to the altered brain conformation, either by accident or in physiological response to it. But, apparently, the view taken by Mr. Macnamara, while admitting an innate power of the brain "to develop and so meet the increased demand arising out of the struggle for existence," is that "the factors governing the growth of the skull differ from those which develop the brain," the brain not being dominant in the outcome, though the marked correspondence during the subsequent evolutionary steps of the human race between the osseous protection and the protected viscus indicate at least a clear coördinating power correlating both in structural advances if not an actual controlling influence of the brain in the skull conformation arrived at. Yet if this non-closure of the sutures in the man section of the primates is not to be found in an advancing brain organism, the osseous framework developing on lines independent of it, wherein lies the explanation of the anterior part of the anthropoid ape skull remaining a shut box controlling the size and function of its brain, while that of man has been permitted gradually to expand in conformity to an enlarging viscus not only endowed with higher intellectual powers, but with an additional speech faculty? Why the poor ape has been handicapped by the continuance of this common original structural defect which has clung to him ever since despite his surroundings, while man was freed from it and allowed to progress, is a mystery; nor is it easy to understand why, assuming that the line of progress has laid through a struggle for existence, the anthropoid apes escaped this struggle at the time when it operated to the advantage of the human family or since, or assuming that they have since been subjected to its influence why the same sequence of events has not again followed in their case as originally in man.

There is yet another point. The race of man has since developed two distinct cranial divergencies in altered relation of length and breadth, carrying with them corresponding brain peculiarities—dolichocephalic and brachycephalic. What relation do these bear to the original change? which was the dominant factor in the result—brain or cranium? and what was the cause in operation?

I write solely with the view of hoping to get cleared up knotty points in the chain of evolution of man, not as throwing any doubts on his probably common physical source with the lower primate order; to some it may suffice to know that he "is what he is," but to others the gradually unravelling past may be pregnant with hope touching his future; and among these latter I enrol myself.

I am, Sirs, yours faithfully,

FRANCIS H. WELCH, F.R.C.S. Eng.,
Surgeon-Colonel (retired), M.S.

Brandram-road, Blackheath, Feb. 25th, 1901.

[1] THE LANCET, Feb. 16th, 1901, p. 447.

PREGNANCY AND LABOUR COMPLICATED BY OVARIAN TUMOURS.

To the Editors of THE LANCET.

SIRS,—The valuable lecture on pregnancy and labour complicated with ovarian tumours by Mr. J. Bland-Sutton published in THE LANCET of Feb. 9th (p. 382), will serve the useful purpose of directing attention to an important subject which has been hitherto much neglected in the obstetric literature of this country. While in general agreement with the opinions he expresses and more especially as to the superiority of ovariotomy in labour where that is possible, I must take exception to his denunciation of reposition as a means of treatment. He characterises it as a measure "decidedly in opposition to all the canons of surgery." He founds this dictum on the two-fold proposition that "pregnancy exerts a baneful influence on ovarian tumours, and ovarian tumours are, as a rule, inimical to successful pregnancy." These reasons, though perfectly valid in regard to operation during pregnancy, are, it seems to me, irrelevant where an ovarian tumour blocks the pelvis during labour. It will naturally suggest itself at the outset that a woman in labour with an ovarian tumour in the pelvis presents an obstetrical rather than a surgical problem. In comparatively few of the published cases where reposition was effected would the circumstances have permitted the services of a skilled operator to be called in. Experience thus bears out the observation of Playfair that it is only exceptionally that expert attendance, with all the necessary appliances, can be had.

The great danger in these cases is delay, to which much of the mortality arising from this complication is to be attributed. This danger is well illustrated in the case which Mr. Bland-Sutton himself cites where, from the firm impaction of the head, it was found necessary to perform Cæsarean section before the tumour could be brought out of the pelvis. It will not be denied that this must add to the dangers of ovariotomy. Whether reposition was attempted earlier in labour is not stated.

On *a priori* grounds it would seem that to push the tumour out of the pelvis is a procedure comparatively free from danger and calculated to give immediate obstetric results quite as good as ovariotomy undertaken in unsuitable surroundings. *A posteriori* evidence confirms this view. In 41 cases in which reposition was accomplished six deaths followed, but three only can be fairly attributed to reposition, that is a mortality of 6·9 per cent. It is true that of several cases of ovariotomy performed during labour all have been successful, but all were performed by experienced operators and their numbers are still too few to justify dogmatic conclusions. A fairer means of comparison is to be found in the statistics which Dsirne has published of ovariotomy in pregnancy. Notwithstanding that the operations (135 in number) were in general undertaken under the most favourable conditions and with the strictest antiseptic precautions Dsirne found a maternal mortality of 5·9 per cent., little better than that obtained by reposition during the actual progress of labour.

I do not for a moment maintain that reposition is-

entirely free from danger, but to found on one unsuccessful case an unqualified condemnation of a method which in the past has given such good results can scarcely be regarded as fair; indeed, the case which Mr. Bland-Sutton cites is, so far as I know, the sole published instance in which axial rotation followed reposition, with the doubtful exception of a case reported by Camden. Even should complications arise after delivery, though they do not seem to be more common in pelvic tumours that have been reposed than in the case of abdominal tumours, the statistics of post-partum ovariotomy show that they may be dealt with by operation with every prospect of success. Where, as most often happen, circumstances do not allow of immediate ovariotomy reposition is without doubt the best method of dealing with this dangerous complication of labour, as I have elsewhere shown,[1] and it will, I am convinced, continue to obtain the sanction of the most advanced obstetric authorities. It would, indeed, be as unreasonable to expect the general practitioner, under whose care most of the cases come, to advise an ovariotomy, which would involve dangerous delay, and expect him to advocate immediate operation in a case of strangulated hernia without first attempting reduction.

I am, Sirs, yours faithfully,

Aberdeen, Feb. 25th, 1901. R. G. MCKERRON.

"RETURN" CASES OF SCARLET FEVER: A SUGGESTION.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Feb. 23rd, p. 576, you referred to the recommendations made by the Royal College of Physicians of London to the Metropolitan Asylums Board that experiments should be made with a view to ascertaining in what way the tendency of patients to carry home infection from hospital can best be overcome. The suggested experiments are in the direction of a much greater classification of patients than has hitherto been practised, as regards the separation of complicated from uncomplicated cases, and of the complete isolation of cases for a short time prior to their leaving hospital. In view of the not very satisfactory results which, as recent statistics have shown, the hospital treatment of patients on the aggregation system has hitherto yielded, everyone, I think, will welcome any attempt to ascertain whether or not the methods hitherto practised are really the best. May I venture to suggest that the proposed experiment might with great advantage be carried further? Would it not be possible, in one or more of the hospitals of the Metropolitan Asylums Board, to set apart a considerable number of isolation wards (specially built for the purpose if necessary) for the separate treatment of patients or families of patients during the *whole course* of their stay in hospital—in other words, to try the effect of substituting true isolation for aggregation? There is reason to think, judging from the remarkable experience of towns where patients are treated in their own homes, that with such a method the percentage of septic complications would be lessened, the number of return cases reduced, and the patients could be allowed to return home very much sooner than is at present the case.

I am, Sirs, yours faithfully,

C. KILLICK MILLARD.

Town Hall, Burton-upon-Trent, March 1st, 1901.

CAMBRIDGE APPOINTMENTS ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—It will be a great kindness if you will once more draw the attention of qualified medical men who are graduates of the University of Cambridge to the Cambridge Appointments Association. We have an increasing number of applications for medical men to act in various capacities and would very gladly be of service to Cambridge practitioners who have the requisite qualifications. The amount of the subscription to this association (5*s.* per annum) is not large and no commission is charged in respect of appointments given or received. We have, therefore, no hesitation in asking Cambridge men who are qualified to join the association in order that we may extend its operations in the medical world. What is lacking at present is not appointments but men to recommend for them. We are in need particularly of those who have had special training in bacteriology as well as in other subjects, but we hope to be of service to others.

I am, Sirs, yours faithfully,

W. A. J. ARCHBOLD, Secretary.

73, Trumpington-street, Cambridge, March 1st, 1901.

[1] Transactions of the Obstetrical Society of London, 1897.

"LEGISLATION AGAINST NATIONAL INTEMPERANCE."

To the Editors of THE LANCET.

SIRS,—Your able leading article on the above subject on Feb. 9th should lead the way to concerted action on the part of the profession by (1) the issuing of a largely and influentially signed statement pointing out in plain and truthful language the action on the organs of the body of excess in alcohol, particularly when taken in the form of spirit; and (2) the determination of each subscriber to the document to use his influence with his patients in correcting the false ideas that are current with the public as to the remedial and dietetic value of alcohol. Bands of Hope do much good by teaching the young the wisdom of avoiding the snares of drink, and temperance societies are a sort of continuation school for the youth as well as a means for reforming the drunkard, but the great mass of excessive drinkers are wholly untouched by these means. One of the greatest hindrances to true temperance is the virulent denunciation of the moderate drinker indulged in by some total abstainers. Intemperate speech will never promote temperance. By "moderate drinkers" I mean those who take habitually a moderate amount of light wine or beer with their meals and, as a rule, avoid spirits. If this standard were commonly followed there would not be one-tenth the present amount of drink consumed.

Very few people outside the medical profession have any idea of the havoc wrought by excessive drinking. The ordinary signs of excess are plain enough, but what the laity require instruction upon is the insidious and ever-increasing damage to the vital organs caused by over indulgence, especially when it takes the form of constant nipping. These facts must be urged on patients, alike in the hospital and the consulting room. It may be said that a medical man has not the time to take on the rôle of a temperance reformer. My reply would be an appeal to the spirit of true patriotism. The substitution of whisky for wine and malt liquors, which is so much the custom just now, is responsible for much of the chronic alcoholism so prevalent. The bugbears gout and rheumatism are a plausible excuse with many spirit-drinkers.

Societies, lectures, and addresses have had but little effect on the insobriety of the nation, and it is high time to adopt a man-to-man treatment, and the one to undertake it is the medical man. The late Professor Drummond has referred to the importance of individuals in carrying out great reforms as follows:—

> The past has, indeed, no masses. *Men*, not masses, have done all that is great in history, in science, and in religion. ..... We require to be taught again to-day to be content with aiming at units. Every atom in the universe can act upon every other atom, but only through the atom next it. And if a man would act upon every other man he can do so best by acting, one at the time, upon those beside him. The true worker's world is a unit. ..... Work with units, but above all work *at* units.

I am, Sirs, yours faithfully,

CHAS. W. CHAPMAN.

Weymouth-street, W., March 6th, 1901.

"THE COVENTRY DISPENSARY."

To the Editors of THE LANCET.

SIRS,—That "the heads of the profession" are the men who stand in the way of reform is proved by the action of some of the Birmingham consultants. Had the consultants been true to the profession the resolution lately passed by the Birmingham and Midland Counties Branch of the British Medical Association would have been a gigantic step in reform, but consultants by continuing to meet in consultation the dispensary staff are obstructing reform in a most audacious manner. The Birmingham consultants professed a very high standard of ethics when their own pockets were assailed by the Birmingham Consultative Institution and when they were loyally supported by the general practitioner, but when the interests of general practitioners are assailed these consultants, instead of giving a helping hand, are found in the camp of the enemy—i.e.,

bolstering up a condemned institution and encouraging the staff to set at defiance the mandate of the profession. The very men who did all in their power to compel Dr. Irvine to sever his connexion with the Consultative Institution are now doing all in their power to encourage the dispensary staff to serve a lay committee and to set at defiance the wishes of the British Medical Association and other ethical organs of the profession. Could anything be more despicable? "If the profession is true to itself" it will now treat those consultants with the contempt they deserve. Those who continue to support the Coventry Dispensary should be included in the same category as the dispensary staff and therefore "in future no professional recognition should be given to them." It will be very easy to discover the names of those consultants who continue to think more of the fees they get through the dispensary staff than of the good opinion of the profession at large. I was always taught to look upon consultants as the upholders of the honourable traditions of a learned profession, but from what I have seen lately I have come to the conclusion that they are greatly to blame for the degraded state of the profession. How can we general practitioners expect reform and expect our interests to be safeguarded when we find such men occupying the principal seats on the General Medical Council, on the council of the British Medical Association, and on the councils of our universities and colleges?

The resolution passed by the Birmingham branch of the British Medical Association has at least done one good thing by making the consultants show their hands. We see them now in their true colours and we can discern those that deserve the support of the general practitioner and those that deserve to be included in the "boycott."

I am, Sirs, yours faithfully,

Coventry, March 4th, 1901. J. LESLIE CALLAGHAN.

"'THE DUMMY CORPSE' CASE."

To the Editors of THE LANCET.

SIRS,—I regret that in my letter on the above case I omitted to state that the temperature was taken from the mouth. Information as to the present condition of Browning can only be obtained by special permission of the Prisons' Commissioners.

I am, Sirs, yours faithfully,

GIDEON W. B. MARSH.

Tachbrook-street, S.W., March 4th, 1901.

THE ROYAL ORTHOPÆDIC HOSPITAL.

To the Editors of THE LANCET.

SIRS,—The report in THE LANCET of Feb. 23rd, p. 591, of the annual meeting of the above hospital held on Feb. 8th, will be clearer with the addition of some details which perhaps you will kindly allow me to furnish.

The honorary medical staff have always condemned the removal of the hospital to another site. Nevertheless, the former committee resolved to take that step and were contemplating the sale of the property for £28,000 when they were defeated on June 8th, 1899, by Mr. H. H. Marks. Lord Wantage (the president), Sir Walter Gilbey (the chairman), Sir Ernest Clarke, and other members of the committee subsequently resigned. The majority at that meeting was publicly acknowledged by Mr. Marks to have been obtained from votes specially created for the purpose. Later Mr. Marks became chairman and several of his friends were appointed members of the committee, while a near relative was made honorary architect. At the time of the meeting it was generally understood that the old committee had been defeated because they wanted to sell the hospital site. Soon after Mr. Marks and his friends came into power, however, they announced that they intended to sell the premises. No reasons were given for that sudden reversal of policy. The premises had been rendered sanitary at a cost of £2000 and the medical staff were still adverse to removal. The next steps were even more extraordinary. The value of the site, as given by Mr. Marks himself on Feb. 18th last, is £1500 at 30 years' purchase, or £45,000. The committee therefore proposed to sell their enormously valuable freehold property, their only asset, and to spend some £30,000 of the purchase money in building a new hospital on leasehold property in a slum. They were only prevented from that course by the unhesitating condemnation of their projected site by a sanitary expert.

On Feb. 18th Mr. Marks, by means of his following of votes, obtained from the governors full powers to sell the site. No financial details of any kind were, or ever have been, given. The alternative scheme for rebuilding on the present site was not discussed. The fact that the hospital premises consist of two blocks, one facing Hanover-square and the other Oxford-street, renders it easy to keep the hospital buildings at the Hanover-square end, and at the other to build two shops, with staff accommodation overhead. The rent from the two shops would be £800. To build such shops and rebuild the hospital is the alternative scheme. The argument that the site is too valuable to be retained as a hospital will not hold water. To deduct £30,000 from £45,000 is to leave £15,000 in hand. The £30,000 would be sunk in bricks and mortar and the remainder of the £15,000, after purchase of freehold and cost of removal, would be left in hand in lieu of the present splendid asset of the Oxford-street premises. Moreover, the larger new hospital in contemplation would mean a great increase of expenditure. In face of these facts it seems impossible that the Prince of Wales's Fund can have gone into the matter when they urge the sale of the Oxford-street site year after year.

The case seems to be on all fours with that of the Royal London Ophthalmic Hospital in Moorfields which sold the enormously valuable site near Broad-street and moved elsewhere. Their present bankrupt state is now the subject of heartrending appeals. Was their removal undertaken under pressure of the Prince of Wales's Fund? It is to be hoped that THE LANCET will look into this matter and see that arbitrary methods of company directors are not allowed to dominate the interests of an old-established medical charity. Lastly, one would like to know, as the Royal Orthopædic Hospital is a chartered institution, whether the Charity Commissioners will permit so unbusinesslike a scheme as the sale of the present freehold to be carried out.

I am, Sirs, yours faithfully,

London, Feb. 25th, 1901. A GOVERNOR OF THE HOSPITAL.

"THE ALLEGED DRYNESS OF AIR IN ROOMS WARMED BY GAS FIRES."

To the Editors of THE LANCET.

SIRS,—I see by an annotation in THE LANCET of Feb. 16th (p. 495) that Mr. Thomas Fletcher, F.C.S., attributes the unpleasant effects occasionally noticed in connexion with the use of gas-stoves principally to the escape of the products of combustion arising from defective flues. These unpleasant effects are not, however, confined to the use of gas fires, but are noticeable in most forms of close and independent stoves. Long ago it was suggested that this was due in a measure to the organic particles present in the air being decomposed when in contact with the highly heated metallic surface of the stove.

According to Sir John Leslie on Heat and Moisture, the moisture present in the external air is doubled by each increase of 27° Fahrenheit.[1] When air is artificially heated, therefore, and deprived of any means of absorbing the due proportion of moisture, the effect upon the lungs and skin of those subjected to its influence must be painfully apparent. Rapid evaporation and consequent reduction of temperature would naturally take place from all exposed surfaces, causing a contraction of the superficial blood-vessels, while those parts not so exposed would in consequence become congested. These ill effects are less apparent in those forms of gas fires adapted to the ordinary open fireplace. As, however, the object of most makers of gas stoves is the conservation of heat, the independent form of stove is the more popular with them.

I am, Sirs, yours faithfully,

Feb. 19th, 1901. A. C.

[1] Air at 32° F., for instance, contains $\frac{1}{170}$ of moisture, at 59° $\frac{1}{85}$, and at 86° $\frac{1}{42}$.

WEST CORNWALL MINERS' HOSPITAL, REDRUTH.—The annual meeting of the subscribers of this institution was held on Feb. 25th. The medical report stated that 150 patients had been admitted against 137 in 1899. The total cost per bed was £60 per annum. The financial statement was satisfactory and showed a favourable balance of £337. The secretary reported that the late Mr. W. P. Michell had left a legacy of a quarter of the residue of his property to the hospital which it was estimated would amount to about £7500.

THE ORGANISATION OF THE PROFESSION.

(FROM OUR SPECIAL COMMISSIONER.)

(*Continued from p. 666.*)

Origin and Formation of the County of Durham Medical Union.—Strikes Hastily Organised and Insufficiently Supported.—Partial Successes and Partial Failure.—Extensive Importation of Outside Practitioners.—The Gradual Strengthening of the Medical Union.—Dissatisfaction with the Imported Opponents and Return of the Miners to their Former Medical Advisers.

THE first step taken towards the foundation of a medical union is always a matter of considerable practical interest. There are many medical practitioners scattered about the country who feel the necessity of organisation but do not know how to set to work so as to create a medical union. Any information as to the means which can be adopted for this purpose must therefore be of use. Sometimes it is felt that no one in the neighbourhood holds a sufficiently prominent position to be justified in assuming the leadership. In that case it is well if some old-established medical society can take the initiative; but it sometimes occurs that there is no such society available or that it is not disposed to move in the matter. More especially is this the case where the population is widely scattered, as in mining districts. Also the position and material circumstances of the colliery surgeon do not lend themselves to the participation of this section of the profession in the social gatherings and scientific discussions held by the old-established medical societies that exist in various parts of the country and which have their headquarters in the larger towns. The sense of isolation is certainly a strong deterrent to all forms of organisation and constitutes a serious obstacle to the formation of strong and well-disciplined unions among the rural practitioners and the colliery surgeons. These difficulties were undoubtedly present in the minds of the three practitioners who met together in the month of October, 1898, and resolved to make some effort to unite in one association all their colleagues practising in the county of Durham. For the moment it would be more prudent, I am told, not to mention the names of these three bold pioneers. Their names may be handed down to fame when the acuteness of the present struggle has worn itself away. For the present it will suffice to say that they all three practise in the north-east corner of the county, that they felt they had not sufficient personal influence to move the profession at large, and they very modestly entertained doubts as to their organising capacity. Nevertheless, they determined to make an effort and hit upon the very ingenious idea of asking a firm of solicitors to help them. They therefore requested Messrs. Graham and Shepherd, solicitors at Sunderland, to send out circulars to all the medical men practising in the county, urging the necessity of forming a medical union. Including in this appeal the town as well as the rural practitioners, this meant the distribution of more than 400 circulars. The fact that this was done by a firm of solicitors helped to inspire confidence. It could not be said that some particular medical man was seeking to push himself forward, assuming a leadership to which he had not been appointed. The fear also of blunders, of legal errors, was in a measure dispelled by the fact that a business-like firm of solicitors were engaged in the work. The formation of an association is, indeed, a very delicate matter. Here are, for instance, some 400 practitioners; if a few among them, six, or even a dozen, medical men, had formed a nucleus there might be ever so many personal objections to some or all these men. It is true that self-appointed committees, secretaries, or presidents only hold these positions *pro tem.*, and the society when definitely organised may elect other officials. In practice, however, this rarely occurs. It is generally felt, and rightly so, that those who have taken the first steps and done much arduous and unrequited work deserve to be elected as the permanent officials. Thus a personal impress is given to the society at its very birth; and if these personalities are not universally popular this is a source of weakness. Rather than go and vote against the self-appointed committee or secretary, and thus appear to be ungrateful, men who might have been good members stop away altogether. In this case, however, there was no secretary, no committee, no president, only a firm of solicitors who could not be looked upon as rivals by any of the medical men to whom they addressed the circulars. Thus, the personal rivalries, jealousies, and enmities which at the very onset constitute a formidable obstacle to the work of organisation were avoided. Consequently no less than half the practitioners who received this first circular replied in a sympathetic manner.

Encouraged by such widespread support Messrs. Graham and Shepherd sent out another batch of 400 circulars, inviting all the members of the medical profession to meet at the Freemasons' Hall in Durham on Dec. 8th, 1898, and there to discuss the advisability of forming a union. 51 practitioners were present and as everyone had been invited the meeting was sufficiently representative to take action. The proposal to form a union was adopted and Dr. Edward Jepson of Durham was elected its president. Then a council of 12 members was also appointed and the services of Messrs. Graham and Shepherd were retained as secretaries. The council was not only instructed to prepare a set of rules but was authorised to adopt them without convoking another general meeting. This work of organisation was rapidly carried out and terminated at a meeting of the council held on Jan. 10th, 1899, and from that date it may be said that the County of Durham Medical Union was definitely constituted. There was not much time lost before a move was made. Hardly was the medical union fairly in existence than a deputation was appointed to wait on the miners' leaders. The deputation consisted of Dr. Edward Jepson, President; Dr. J. F. Armstrong, Vice-President, from South Shields; Dr. C. F. G. Mann, from Washington; and Dr. J. Murphy from Sunderland. They were received at the Miners' Hall, Durham, by Mr. John Wilson, M.P., Mr. Johnson, the miners' financial secretary; Mr. Henry Cann, their treasurer; and others. Representations were made showing that 6*d.* per fortnight for medical attendance upon an entire family was insufficient. This sum was fixed some 50 to 60 years ago when the cost of living was much higher and the pay received by the miners was very inferior to what they are now earning. Under the present altered and more favourable circumstances the miners could well afford to pay 9*d.* per fortnight. On the other hand, the cost of medical education, of drugs, and of surgical instruments had greatly increased. The miners' representatives did not attempt to controvert any one of these statements. They simply explained that they had no power to deal with the matter. The miners were free to make whatever arrangement suited them best for medical attendance. Such questions should be negotiated with the men themselves or with whatever local organisation they might have established for the purpose of securing medical aid.

Thereupon the medical union at once prepared a letter which was forwarded on Jan. 26th, 1899, to every miners' lodge or organisation throughout the county, numbering in all 181. The letter inclosed a printed report of the meeting held by the members of the medical profession at which the question of raising the fortnightly subscription from 6*d.* to 9*d.* had been discussed and asked that the matter should be laid before the members of these organisations. If there were any objections the medical union would arrange for a deputation to meet the subscribers and discuss the matter amicably. This circular had been sent everywhere and not merely to those districts where the medical men had joined the medical union.

On March 2nd, 1899, the council of the County of Durham Medical Union met to discuss the answers received. From the 181 lodges, &c., only 42 replies had been received. The great majority evidently refused even to consider the proposal. Some desired to discuss with a deputation, as had been suggested; only a few accepted and undertook henceforth to pay 9*d.* instead of 6*d.* per fortnight. It was thus early rendered evident that the position of the profession was not to be improved, at least on a large scale, without a struggle, and perhaps a severe struggle. Consequently there would be victims, and therefore the first step was to make good provision so as to come to their assistance. A general meeting was convoked in Durham on March 7th, 1899, and it was then resolved to establish what was called an Indemnity Fund. So as to start this fund two medical men each subscribed £10 10*s.* Five others gave £5 5*s.* each. 14 practitioners promised to give 10*s.* weekly and seven put themselves down for 5*s.* per week. A circular giving these results was issued and it brought further subscriptions. It was decided that this fund should be administered by the President and the Vice-President only, so as to avoid unnecessary publicity. Members who were in need

of such assistance were requested to apply to the secretaries and to show their books establishing the loss they had experienced to the solicitors. They were assured that they would then receive every help, financial and otherwise. Those members who had obtained the increased rate of payment through the efforts of the union were urged to subscribe liberally; at the same time they were informed that they would not be called upon to fulfil their promises unless the money was really needed. This fund had barely been constituted when two practitioners had to be indemnified. In answer to their demand for the 9*d*. the miners had imported a medical practitioner who at first did all the work and the two old-established practitioners found themselves without patients and without income. Fortunately, these imported practitioners rarely give satisfaction, and the miners gradually, one by one, came back to their old practitioners, so that the two practitioners who at first received financial assistance have now no longer any need for help from the indemnity fund.

Unfortunately, all the colliery surgeons had not the courage to hold out. Indeed, and as often happens in such cases, it was some of those who had been the loudest in clamouring for immediate action and in proposing a general strike who were the first to give way. They seemed to think that such contests are won by mere words and that the miners would yield at once. But the miners felt that if the medical men's cause was really a good cause it was worth fighting for, and if the medical men had so little faith in their own claims as not to fight for them then the miners need not trouble to make financial sacrifices on behalf of such milk-and-water individuals. The fact that there were a considerable number of week-kneed practitioners who mildly submitted to the refusal made by the miners rendered the struggle all the harder for those who had the courage to hold out. At Framwellgate Moor, at South Moor, and at Craghead, the colliery surgeons held out well. Opponents were imported, the colliery surgeons lost their patients, but still they persisted and the patients slowly returned to them. At the onset only a few medical men stuck to their point. There was no general battle but scattered skirmishes occurred, and when one colliery surgeon had won the day then some others in the neighbourhood would pluck up courage and enter the lists. Whenever the miners advertised for an outside practitioner to come and to establish himself in their district the County of Durham Medical Union immediately published counter advertisements in the same papers urging no medical man to accept these offers without first communicating with the secretaries of the medical union. This led to a great mass of correspondence; but, to the credit of the profession be it said, not a single one of the correspondents accepted the offers made by the miners after they had been informed of the true state of affairs. Thus the offers were only taken up by a class of men who find it difficult to get employment otherwise. That there is such a class is a fact that cannot now be denied and it is an important fact which must be dealt with. In the county of Durham alone some 20 such men have been imported.

The first annual meeting of the County of Durham Medical Union was held on June 6th, 1899, some six months after the definite creation of the union. It was then shown that 214 medical practitioners had adhered to the principles of the union and that 201 had paid their subscriptions as members of that organisation. As there are, in all, about 430 practitioners in the country, and as the union had not yet dealt with the interests of the town practitioners, this total of membership cannot be considered otherwise than satisfactory, at least for a beginning. The objects of the union are wide and far reaching, but so far the union has only attended to the one question of raising the subscription for contract work for the colliers. Unlike the Northumberland and Newcastle Medical Association, which is worked on the principle of centralisation, the rules of the county of Durham Medical Union admit the formation of district committees. It is true that the members of these local associations are to pay their annual subscription to the central body, but they are to be allowed by the general council any reasonable expenses incurred in carrying out the work of local organisation. At the first annual meeting it was stated that 10 such local committees had been formed and that the South Shields Medical Association had been affiliated to the County of Durham Medical Union. It was also reported that the colliery surgeons in eight districts had from the very first adhered to their notices demanding the increase. Strangers had been imported in seven out of these eight districts. At Southmoor five medical men had been imported, but only one remained; the others had left after a few weeks' experience of the unpleasantness of their situation. In the Stanley district the inaction of the majority of the local practitioners was a great source of weakness. Mr. Ingram-Johnson and Mr. S. J. Fox alone refused to accept less than the 9*d*., and they had to contend, not only against the importation of eight outsiders, but also against their colleagues and neighbours who were too timid to persist in the demand. At Washington also some of the local practitioners gave way, but Dr. Mann and Dr. W. Jacques held out manfully, though an opponent was imported to compete against them and is still in the district. Little by little the miners have individually returned to these practitioners and consented to give the 9*d*., so that these two surgeons have now gained back their former position, and in the course of time it will doubtless be considerably improved.

On Jan. 24th, 1900, a large general meeting of the County of Durham Medical Union was held. The union had then been in existence a full year, but complaints were still made of want of courage. The local committees were in dread of the family clubs organised by private practitioners and which could not be controlled. The report suggested that a minimum fee should be established for such clubs. On the other hand, the members present were cheered by the announcement that at Monkwearmouth 1400 miners were now paying the 9*d*. Five more collieries had been notified and four had got one practitioner from outside whom they shared between them, but he did very little harm. The Stanley district was again warned. Two practitioners had each received £50 from the indemnity fund, but there had been no other calls for such assistance. The employment of an unqualified assistant had been discovered by the council of the union and he had been denounced and had now left the county. It was urged that all members of the union should set a good example in this respect and not employ unqualified assistants. Canvassing which had been practised at Auckland was reported to the General Medical Council, but this body asked for affidavits which were difficult to procure. As the expenses had been very heavy it was found necessary to increase temporarily the annual subscription from half-a-guinea to one guinea. Dr. Alfred Cox of Gateshead gave a report in regard to a conference held at Newcastle during the previous month of November on the question of direct representation on the General Medical Council, with the result that the meeting passed the following motion:—

> That this meeting is of opinion that the medical profession is not sufficiently or properly represented on the General Medical Council and it is strongly recommended that all representatives from universities and corporations be elected by the individual votes of medical graduates of each university and members of such corporations.

During the ensuing month of March a circular was sent to all the practitioners of the county urging those who were not already enrolled to join the union and pointing out that at least 100 members had already had their incomes substantially increased by the efforts of that organisation. But it was necessary to deal, not merely with the contract work of the colliery surgeons, but also with family clubs, friendly societies, yearly boxes, midwifery fees, certificates, &c. In several places these questions had been taken in hand and with success. Soon after this, in June, 1900, the second annual meeting was held, when it was reported that success had been achieved in some more collieries, but that there was a prolonged struggle at Bishop Auckland and that the state of affairs in the Stanley district was still very deplorable. The imported practitioners had now departed from the Craghead district. At the Wardly Colliery district it had been difficult to get the colliery surgeons to act together. One of them was not a member of the union; nevertheless, the demand for the increase had been made and in reply a somewhat inoffensive opponent had been imported. In another district an imported practitioner had been compelled to appear before the General Medical Council to answer the charge of employing an unqualified assistant. Some districts still refused to give the increase and a few practitioners had suffered substantial loss. At Sunderland, South Shields, and Stockton the friendly societies had been approached with a view of improving the position of their medical officers.

All last year the work of organisation was continued and actively pressed forward. Throughout the President of

the union, Dr. Jepson, had been indefatigable, travelling long distances to interview recalcitrant practitioners, to attend local committees, or to address meetings of medical men so as to explain the action and policy of the union. Then there had been all manner of efforts made to get rid of the imported practitioners, and they, too, had been interviewed and many letters had been written to them. Of course, they were boycotted and none of the members of the union would meet them in consultation. Even the practitioners who were not members of the union joined in this boycott. If a second opinion was desired the imported practitioner must retire from the case. When the last annual meeting was held—and it took place on Feb. 5th, 1901—still further progress was reported. During the course of the year that had elapsed a considerable amount of important work had been done. In various districts, which at first had not joined in the movement, the members of the union were pressing for the increase and had met with at least partial success. It was strongly felt that the demand for the increase must be made at once while the high rate of wages still prevailed. There were very emphatic indications that the present state of prosperity would not last, and it would be very difficult for the colliery surgeons to obtain a rise in the face of a downward tendency in wages. At Hetton the local practitioners had been induced by the union to stand out for the increase and they had been entirely successful. Similar applications were made in the adjoining districts of Seaham and Silksworth, but one of the local practitioners hesitated to press forward his claim and preferred to renew his application at a later period. At Silksworth the colliery surgeon held out, and the colliery manager, acting in consequence of a notice he had received from the miners, determined that he would not retain any sum from their wages for medical purposes. The miners here threatened to form a medical aid association, but the local practitioners were striving to meet this by persuading individual miners to sign an agreement to pay the 9*d*. and arranging to have this sum collected independently of the colliery office. This had been so successful that out of 830 houses the inhabitants of 710 houses had accepted the proposal and were now paying the 9*d*. to a collector. It was suggested that this method of proceeding might with advantage be more generally introduced in other districts. At Crook strenuous efforts had been made to persuade an imported practitioner to leave, and though this was not achieved he was induced to raise his charge from 8*d*. to 9*d*. per fortnight, and therefore the members of the union were now competing with him on equal terms. Perhaps, however, the greatest event recorded was that the practitioners in the Stanley district had at last been brought into line. They had once again plucked up courage, made their demand, and this time stuck to it. The result was a complete success. A few malcontents were striving to get a practitioner to come to the district and to practise at the old rate of payment, and went about canvassing to secure adherents. Thereupon Messrs. Graham and Shepherd wrote and threatened them with legal proceedings, and this had somewhat damped their ardour. They had almost secured the services of an outside practitioner; but when the latter found that there was a chance of his being brought up before the General Medical Council for being in the service of an organisation that practised canvassing he promptly disclaimed any connexion with the concern. The members of the medical union who resided in the town of Sunderland, but who attended to patients who worked in neighbouring collieries, had also secured the 9*d*. and were now pressing similar claims on the friendly societies established in the town. In this latter direction some improvements had already been effected. The report presented at the third annual meeting then went on to say:—

> Our members will no doubt have noticed that attempts to form medical aid associations are in progress all over the country. This is a question that the General Medical Council ought to take up. They have already expressed disapproval of practitioners canvassing for patients and it is felt that they ought also to condemn and declare that it is infamous conduct in a professional respect for any registered practitioner to become the paid servant of any medical association formed and carried on by working men. The council intend, when sufficient evidence is obtained, to lay the facts before the General Medical Council and press them to take the matter into their consideration.

Such are the most salient facts connected with the history and development of the County of Durham Medical Union. Like all other movements, this union has had to learn by experience and has blundered from want of experience. There were at first over-confidence and a tendency to make efforts without due preparation and consequently they were not efficiently and strenuously sustained. The miners, on their side, complained that the medical men were lacking in tact in the way in which they opened negotiations. Some practitioners had a tendency to lay down the law and assumed a tone that unfavourably impressed the miners. After all, there were two sides to a bargain, and when some colliery surgeons declared that henceforth they were not going to do this or that, as if the decision rested entirely with them, the miners took the other view and thought that they also had a voice in the matter; and as there seemed to be no disposition to consult them they determined to act independently and to import medical men who would accept without question their terms. This feeling and attitude were not general, but they existed in some localities; and there could be no doubt but that some colliery surgeons were lacking in tact. They seemed to have forgotten that the miners, by the strength and discipline of their trade unions, had compelled the colliery owners to treat them on a footing of equality, and they expected to be treated by the medical men, whom they paid, with at least as much deference as was shown to them by the colliery owners from whom they derived their wages. But apart from this somewhat sentimental aspect of the question there was the material grievance that the miners did not get proper medical advice. Anybody seemed good enough to attend a miner when he was ill. Any unqualified assistant was sent to see the patient. Hardly any miners really object to pay the 9*d*. per fortnight or think the sum too large if they obtain in exchange careful treatment from a fully qualified practitioner, but they object to pay this sum if they are to be attended only by an unqualified assistant, and such unqualified assistants still exist in the county of Durham.

It will be seen from the above that the County of Durham Medical Union is quite in agreement with the miners on that question and that active measures have been taken to get rid of all the unqualified assistants. Under all these circumstances, and when time has rubbed off a few rough corners, there is every hope that both sides will come to terms amicably. The leaders of the miners—and I have lengthily discussed the matter with them—are really anxious to be on the best of terms with the members of the medical profession. There are mutual interests that should unite them. The Miners' Union give sick allowance to their members during illness, and it is therefore to their interest that malingering should be prevented and that the sick should be cured and return to work as soon as possible. On the other hand, the medical practitioners, if they do their best to insure these results, have the right to claim to be remunerated sufficiently. Thus with the abolition of the unqualified assistant, with a greater show of deference on each side, with a better understanding of each other's interests, peace may ultimately be brought about and the remaining contentions set at rest.

Durham, Feb. 25th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Plague Epidemic.—The Famine Fund.—Hospital Ship for China.—The Queen Victoria Indian Memorial.

THE mortality from plague proceeds apace—declining in some places while it is rapidly rising in others. For the whole of India there were 3415 deaths last week, as against 3396 in the previous week and 1869 in the corresponding week last year. The chief increase has occurred in Bombay city, where the general mortality has risen to 1941, including 786 deaths from plague. This is a rise in one week of 320 plague deaths and of 522 in the general mortality. When it is mentioned that the normal mortality should not exceed, say, 500, the disastrous nature of the outbreak will be understood. This fifth outbreak looks as unfavourable as any that has preceded it. By comparison with previous charts it can be seen that the rising death-rate is proceeding on exactly parallel lines and indicates that there will be a still higher mortality for several weeks to come. In Bengal the total number of plague deaths has not increased, only 2129 deaths having occurred as compared with 2261 during the preceding week. Patna reports 1212 deaths, Saran 514, Monghyr 245, Gya 36, and Calcutta 71. The outbreak in Calcutta is developing, more cases having

occurred in the quarter always first attacked, and a larger number of undoubted cases with a smaller proportion of suspicious deaths having been reported. Small-pox, however, is raging in the city and this caused 120 deaths last week. From previous experience elsewhere there is no evidence to show that this disease running at the same time effects any modification in the course of the plague outbreak. Elsewhere the disease does not indicate any marked virulence. More cases have occurred in Karachi which seem to herald an impending outbreak, and the plague has at last shown itself in Benares city. In many villages around it is still spreading. The Madras Presidency returns only 44 deaths, the North-west Provinces 14, the Punjab eight, and the Mysore State 269.

Famine in certain districts still continues. Some idea of the cost both to the Government and to the country has been previously published. The thirty-fifth list of subscriptions towards the famine fund has just been published and shows over 144 lakhs of rupees, equal to nearly a million pounds sterling. Assistance has been received from all parts of the world, which shows the sympathy of other peoples in probably the greatest famine that India has ever known.

The hospital ship *Gwalior*, which is maintained by the munificence of His Highness the Maharajah Scindia of Gwalior and which is estimated to have cost that prince £120,000, has sailed again for China. The following officers are in charge:—Lieutenant-Colonel A. M. Crofts, I.M.S., Lieutenant-Colonel W. Coates, I.M.S., Captain Jay Gould, I.M.S., and Lieutenant G. Tate, I.M.S. Reliefs are being taken out, and it is hoped that the *Gwalior* will be able to bring away the sick and invalids from Peking which the *Carthage*, recently returned, was unable to do owing to the rivers being frozen.

An Indian memorial to Queen Victoria is contemplated and the support it has already received is unparalleled. Before a meeting was held or a subscription list opened nearly £200,000 were promised. It is proposed to erect a magnificent hall on the north end of the Maidan of Calcutta and to surround it with gardens. This will be the national memorial and it is fitting that it should be placed in the capital. Other cities are already arranging to have memorials of their own. Some of the princes of India have already shown their loyalty by a splendid munificence, the Nawab of Dacca having promised Rs.50,000, the Maharajah of Gwalior Rs.1,000,000, the Maharajah of Kashmir Rs.1,500,000, and the Maharajah of Jeypur Rs.500,000.

Feb. 9th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Progress at the Manchester Royal Infirmary.

THE admission of women students to the wards of the Manchester Royal Infirmary would have been scouted 50 years ago as revolutionary and worse. Now, however, the change is made without exciting surprise or feeling and the matter occupies just three lines of the report of the infirmary that has just been issued: "On the application of the Council of the Owens College and with the concurrence of the medical staff it has been decided to admit women students to the hospital practice of the Infirmary." A second important and wise decision has also been arrived at. The report says: "Your board have come to the conclusion that it would be desirable in the interests of the institution that the honorary staff should be more intimately connected with its management." Four of the staff being trustees—i.e., being subscribers of three guineas or more annually—may be elected annually by their colleagues to serve on the board of management. The question of rebuilding on the present site or removing the infirmary is also apparently settled in favour of the former and has so far advanced that plans and estimates are now being obtained.

Crusade against Tuberculosis.

Dr. Harold Coates, the special medical officer employed by the city council to assist in the crusade against tuberculosis, has been making investigations as to the infectivity of the dust found in the dwellings of tuberculous patients. The samples were collected with strict aseptic precautions. The dust was mixed with sterilised water and was then used to inoculate guinea-pigs. In many cases the animals died within 48 hours from septic disease due to germs other than the tubercle bacillus. The others were killed a month afterwards; post-mortem examinations were made, and where tuberculous lesions were found microscopical preparations were made and the bacilli were demonstrated. The houses examined were divided into three classes: 1. Dirty houses, where consumptive patients take no precautions to dispose of their expectoration so as to prevent infection of the atmosphere. Of this class 23 were examined. 2. Very clean houses, but where consumptive patients were living who were not sufficiently careful. 10 of this class were examined and in five—i.e., 50 per cent.—infective dust was found. 3. Very dirty houses in which there had been no case of tuberculosis for some years past. A number of houses, all very dirty, but where there was a clear history that no case of tuberculosis had occurred for three years or more, were selected, and in no case was infective dust found in them. It has been the practice of the Manchester Hospital for Consumption for several years past, with the coöperation of Dr. Niven and the health department of the corporation, to have the houses of the patients disinfected, for it was found that many of these patients who were apparently cured became re-infected on returning to their homes. The plan adopted in Manchester is that of disinfection of walls, floors, ceilings, furniture, &c., by washing with a solution of chlorinated lime, one and a half ounces to the gallon, which is found to be thoroughly efficient. The importance of precautions in the disinfection and disposal of expectorations is by now becoming known to the more educated portion of the community, but there is a great amount of apathy and ignorance among those who form the bulk of the out-patients of the hospitals.

Typhus Fever in Ancoats.

Since Dr. Niven's first report to the sanitary committee of the Manchester City Council 25 more cases of typhus fever have broken out. So far as ascertained the total number amounts to 60. Nine of the patients who were removed to hospital have died. It seems that most of those "by whom the disease has been introduced into households or by whose instrumentality the disease has been spread" have been rag-sorters or tobacco workers. But the original cases have been traced beyond them and the connexion is now considered doubtful between these trades and the outbreak. Meanwhile the outside source of infection has not been discovered. There is nothing in the work of the tobacco factory to aid in the spread of the disease, "and it is possible that the large number of cases occurring in this occupation and in the sorting of rags is due rather to the poverty and wretched homes of the workers than to the character of the work," but the possibility of its spread from rags or tobacco has been taken into account and preventive measures have been taken. Dr. Niven expresses himself indebted for assistance and counsel in dealing with the outbreak to Dr. C. H. Braddon, the chairman of the hospitals sub-committee.

The Owens College Jubilee Memorial Fund.

The fiftieth anniversary of the opening of Owens College will occur on March 12th. It is unnecessary to say anything as to the important work that has already been done by the College for higher education, not only locally but through the country at large. Since it was founded other university colleges have sprung into being, as at Birmingham, Bristol, Leeds, Liverpool, Newcastle, Nottingham, and Sheffield, having had their origin, Manchester may claim, to a great extent in the example set them in Manchester. But the growth of the College and the extension of its work involve financial necessities, and it is proposed to commemorate this Jubilee year by raising an endowment fund equal to that bequeathed by John Owens. This means at least £100,000. Another sum of £50,000 is to be raised so as to clear off debts and "to repay the deficit on income account in past years." The largest of the debts is £22,000, "the balance of the sum which was required to complete the buildings of the Medical School on a scale commensurate with its high rank among the medical schools of the kingdom." Already five sums of £5000 each have been promised and it is hoped that the remaining large sum will be obtained without any extraordinary difficulty. The appeal draws attention to the large amounts raised in America for educational purposes, it having been computed that since 1883 at least £22,000,000 have been given by private citizens (apart from State aid) to promote advanced education in their country—an example to be followed, it may be hoped, by some of the wealthy Lancashire people.—At the half-yearly meeting of the Court of Governors, held on March 5th, the appointment of Dr.

R. B. Wild to the Leech Professorship of Materia Medica and Therapeutics was confirmed.

The Port of Manchester.

A meeting of the Manchester Port Sanitary Authority was held on March 4th. The medical officer's report showed an absence of serious sickness on the 93 vessels which had entered the port since the last meeting. Dr. J. H. Crocker is leaving for Richmond, where he has been appointed medical officer of health, and his resignation has been accepted with regret. In this, his final report, he says that he "had never felt quite sure that some cases of plague or small-pox might not escape him owing to his inability to be present at the arrival of every vessel." Fortunately, no case of plague has escaped him, and, indeed, a most assiduous watch has been kept up. He stated that it was advisable to appoint a medical officer who should devote the whole of his time to port sanitary work, and as his time would be fully occupied at Manchester it would be necessary to arrange for deputies at other parts of the port. Rats were mentioned as a great source of danger, and it was suggested that the ships should be kept four or six feet from the quay and the ropes guarded to prevent the rodents from swarming upon them. In all ships the rats should be exterminated and in the warehouses, too. After some discussion it was agreed "to advertise for a medical officer to devote his whole time to the work outlined in the report, the salary to be £350 a year." This gentleman must, of course, be well qualified, must have a diploma in public health, and must be always on the alert, for his responsibilities will be great and constantly increasing with the increase of traffic, so that the salary proposed does not err on the side of liberality.

March 6th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Cardiff Infirmary: Local Public Spirit.

THE annual meeting of the supporters of the Cardiff Infirmary has of late years been a gathering at which the single story has been told of increasing expenditure and lessening income with the natural accompaniment of a standing debt mounting higher and higher. Year after year suggestions have been made for lessening the expenditure or for increasing the income of the institution. Wards have been closed and small economies have been effected, while bazaars, balls, and concerts have been organised for the purpose of reducing the adverse balance. In spite, however, of every effort the amount of indebtedness increased until at the beginning of the year 1900 it stood at £10,700 and although there was an increased income during the year of £825 and a decreased expenditure of £612 the executive committee managed to spend £633 more than they received. At the end of 1900, therefore, the standing debt was £11,333. The decrease in the expenses is attributed to the closing of the special gynæcological wards which contained 30 beds and were opened three years ago. The reduction of the number of beds in the infirmary constantly available from 150 in 1899 to 120 in 1900 is said to account for the increase in the annual cost per bed from £54 5*s.* in the former year to £63 15*s.* in the latter. It had long been felt that only by a great effort, and one which was supported by the leading men in the town, could the institution be cleared of its incubus, so that when the newly elected mayor (Mr. T. Andrews) announced on Nov. 9th last that he was determined to wipe out the debt brighter prospects seemed in store. Although subscriptions, some of considerable sums, came in rapidly in response to the mayor's appeal it is doubtful if he could so speedily have achieved his purpose without the assistance of one of the Cardiff daily papers, the *Western Mail*, the managers of which inaugurated a "shilling fund" and placed at the head of it their own munificent subscription of 500 guineas. In a little over three months, at the annual meeting on Feb. 27th, the mayor was able to hand over a cheque for £11,272, a sum which was practically sufficient to extinguish the debt and which included £5697 sent to the mayor's fund, £5375 sent to the *Western Mail*, and £200 sent to a fund established by the Mayor of Cowbridge, a small town which is joined to Cardiff for Parliamentary purposes.

Refuse Destructors.

The large towns in South Wales have been slow to adopt the methods of refuse destruction which have for many years been employed in other parts of the United Kingdom, notably in the manufacturing towns of the north of England. At Cardiff, at Swansea, and at Merthyr house refuse is still carted out to large "tips" in the suburbs of those towns. In the Rhondda valley there is approaching completion a destructor of the type known as "Mason's gasifier," which appears to have recommended itself to the sanitary authority in consequence of the small chimney which is required, a factor that can be appreciated in those localities where the refuse to be destroyed cannot readily be brought to a central depôt, but has to be dealt with in different parts of the district. At Barry a destructor was formally started on Feb. 27th and is actually the first to be erected in South Wales. It is of the Beaman and Deas type and consists of two cells which are said to be capable of burning 30 tons of refuse per day of 24 hours. The entire cost of the installation is £7500.

Pembrokeshire and Haverfordwest Infirmary.

The annual report of this institution states that during the year 1900 there were treated 99 in-patients and 673 out-patients at a cost of £869. The total income for the year from interest upon investments and from subscriptions amounted to £860. It is anticipated that the alterations in the drainage, &c., which are now being carried out will be completed and will permit of the wards being reoccupied by the beginning of May.

The Medical Officers of Health of Haverfordwest.

Mr. George Griffith has resigned his appointment as one of the four medical officers of health for the Haverfordwest rural district. The population of the whole district is about 32,000 and the area 160,000 acres. Each of the medical officers of health receives a salary of £20 per annum.

Public Health Laboratory at Cardiff.

The Cardiff and County Public Health Laboratory has been established nearly three years, and the increasing usefulness of the undertaking is demonstrated in the report of the bacteriologist (Dr. W. G. Savage) for the year 1900. Three suspected cases of plague were bacteriologically investigated during the year—two with a positive and one with a negative result. For suspected diphtheria 243 specimens were examined and in 72 instances Klebs-Löffler bacilli were found; Widal's reaction occurred in 73 specimens examined and tubercle bacilli were demonstrated in 36 of the 86 specimens of sputum examined. There were bacteriologically examined 119 samples of water and 198 additional samples were submitted to chemical examination. A small fee is paid by medical practitioners or medical officers of health who forward material for bacteriological examination, but all samples of water sent by medical officers of health within the administrative county are examined both bacteriologically and chemically free of charge.

Royal West of England Sanatorium, Weston-super-Mare.

The annual meeting of the subscribers of this institution was held on Feb. 23rd. The medical report stated that 2120 patients had been admitted during 1900—an increase of three as compared with the previous year. 8462 hot and cold sea-water baths had been given and had afforded much relief in rheumatism. The financial statement showed that the total income for the year was £3788 and that the expenditure amounted to £3471. Mr. F. J. Fry was re-elected president.

Exeter Dispensary.

The annual meeting of the governors of this institution was held on Feb. 23rd. The medical report stated that 5571 patients had been treated during 1900, against 6256 in 1899. The financial statement showed a favourable balance of £212. The chairman (Mr. S. Ward) said that by a rule of the dispensary members of clubs who were entitled to medical treatment and medicine were not eligible as patients.

March 5th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Edinburgh.

As was to be expected several fresh cases of small-pox have shown themselves in Edinburgh. At the date of

writing there are four cases in hospital. The public are not yet, however, sufficiently alarmed to seek revaccination to any great extent. A circular has been issued by the Local Government Board to local authorities, recommending the coöperation of the local authorities of county districts with those of burghs and the prompt establishment of small-pox hospitals and houses of reception, while it also refers to the power now given to local authorities by the Public Health (Scotland) Act, 1897, to offer free vaccination when such appears necessary.

Edinburgh Royal Infirmary.

A meeting of the managers of the Edinburgh Royal Infirmary was held on March 4th. Dr. D. Berry Hart was appointed gynæcologist, in room of Dr. J. Halliday Croom whose term of office had expired. Dr. Croom was appointed honorary gynæcologist to the institution. The quarterly financial statement was presented by the convener of the house committee, being the accounts of expenditure and revenue for the quarter ending Dec. 31st, 1900. This statement showed an increase in the quarter on the ordinary expenditure of nearly £1000. In maintenance there was an increase of £140 1*s.* 5*d.*; in medical expenditure, £57 11*s.* 9*d.*; in wages, £235 1*s.* 7*d.*; in coal and dross, £634 11*s.* 9*d.*; in lighting, £106 11*s.* 4*d.*; in salaries, £155; and in taxes, fire-insurance, &c., £31. The increase in most of those departments was due to a rise in the price of articles bought. The total ordinary expenditure for the quarter had been £13,526 10*s.* 4*d.*, so that at that rate the infirmary would cost at least £1000 per week, or over £54,000 in the year. Mr. Blair pointed out the necessity of encouraging the public and others to increase their subscriptions and donations. It was arranged that a private meeting of the managers should be held to examine the accounts.

University of Edinburgh.

The Senatus Academicus has offered the honorary degree of LL.D. to (among others) Dr. James Little, Regius Professor of Physic, University of Dublin, and to Sir John Williams, Bart. At a meeting of the Edinburgh University Court held on Feb. 18th the Senatus reported that the Faculty of Medicine had appointed Professor A. R. Simpson to be Dean of the Faculty in room of Professor T. R. Fraser, who had resigned that office. The court approved of various grants, recommended by the Senatus, from the Earl of Moray Endowment Fund for the following researches: 1. Research by Dr. J. M. Beattie on the Origin, &c., of Cells in Inflammation. 2. Researches by Mr. Nelson Annandale in the Malay Peninsula. 3. Researches by Dr. J. H. Ashworth on Marine Worms. 4. Research by Dr. Beard on the Development of the Elasmobranch Fishes. The court granted the application for recognition by Dr. Alexander Bruce, Edinburgh, as a lecturer in medicine. It was agreed to accept with thanks the sum of £200 offered by the Scottish Association for the medical education of women and subscribed for the foundation of a prize for women students of medicine in memory of the late Janet Dorothy Gilfillan, M.B., Ch.B. Edin.

The Glasgow Small-pox Epidemic.

The report issued on March 1st announced that during the past week 130 new cases had been admitted to hospital, 90 patients had been dismissed well, and 10 deaths had occurred. The number of patients remaining in Belvidere on March 1st was 385, an increase of 30 on the previous week. This record has produced great disappointment and something like consternation in the city. The recent announcement of the discontinuance of the daily bulletin had produced a general impression that the worst of the epidemic was passed and that there was no longer any need for anxiety. But it is now recognised that these favourable anticipations were ill-founded and the tension of public feeling has correspondingly increased. Apart from the serious features of the epidemic as painful and serious facts, it is keenly realised that the existence of small-pox in the city on so extensive a scale is likely to exert a most prejudicial effect on the success of the forthcoming exhibition, and this feeling has found expression in the public press. With a view to allay public anxiety the Lord Provost on March 3rd received and made a statement to the chief reporters of the local newspapers. His lordship announced that 20 additional inspectors had been appointed and that the whole time of the inspectors was to be devoted to house-to-house visitation with a view to discover unvaccinated persons and to press on all the necessity of revaccination. In his weekly report the medical officer of health draws attention to the large proportion of adults among the patients as showing that it is those who neglect revaccination who keep small-pox active in the city. He also alludes to the influence of a fall in the number of cases on the practice of revaccination. The number of revaccinations reported during the past fortnight reached a total of 77,562, but judging from the amount of lymph given out during the last few days there has been considerable less activity in this direction. The mild cases of the disease, which are often regarded as chicken-pox or "spots" caused by "indigestion," cause the health department much trouble, as they are both difficult to discover and produce numerous "contacts" which it is impossible to trace. As indicative of the popular feeling the *Glasgow Herald* calls for the appointment of a special commission consisting of leading physicians and representatives of the health authorities. It also proposes the mapping out of the city into some 150 districts, each to be put in charge of a medical officer and a lay assistant. There is certainly a need for energetic measures if the city is to be made safe for its inhabitants and attractive to visitors. This claim has all the more urgency in view of the approach of the months which provide the seasonal conditions that favour the spread of small-pox. Dr. A. K. Chalmers warns the public that there is need for increasing apprehension if the apathy in reference to revaccination which has recently manifested itself is allowed to continue.

Faculty of Physicians and Surgeons of Glasgow.

Dr. A. K. Chalmers and Dr. Robert S. Thomson having passed the necessary examinations have been elected Fellows of the Faculty. Dr. Robert Muir, Professor of Pathology in Glasgow University, has also been admitted to the Fellowship.

Medical Appointments.

Mr. David Chalmers has been appointed casualty surgeon to the Glasgow Southern Police District. Dr. E. A. Gibson has retired from the position of obstetric physician to the Glasgow Training Home for Nurses, his term of office having expired.

Scottish Special Hospitals.

The fifteenth annual report of the Glasgow Samaritan Hospital for Women gives evidence of the increasing usefulness of this charity. The pressure on both the in-patient and out-patient departments has become so great that the directors have been compelled to consider the possibility of increasing the hospital accommodation. They propose, therefore, to build a new wing to provide 20 beds and two operating rooms at an estimated cost of £7000. Towards this sum the trustees of the Bellahouston bequest have generously contributed £1700 and the directors now appeal to the public to subscribe the balance, at the same time intimating their intention not to commence building until the greater part of the sum needed has been promised. The report gratefully acknowledges the gift of a convalescent home by a lady who desires to remain anonymous.—The annual meeting of the subscribers to the Glasgow Cancer and Skin Institution was held on Feb. 26th, and the chairman, in moving the adoption of the report, announced that it would be necessary, in view of the increased demands for admission, to contemplate the enlargement of the hospital at an early date. The vote of thanks to the medical staff was proposed by Dr. David Yellowlees who paid a high compliment to the excellence of the work of the institution both in the wards and the laboratories.—At a recent meeting of the subscribers to the Paisley Eye Infirmary it was announced that Mr. Kenneth M. Clark had presented to the institution a complete outfit of instruments at a cost of £500.

Scottish National Red Cross Hospital.

The staff of this hospital have determined to celebrate their associated work in South Africa by holding an annual dinner and the first meeting took place in Glasgow on March 1st. The chair was taken by Mr. J. Luke, in the unavoidable absence of Mr. Henry E. Clark, senior surgeon. The other members of the staff and a number of medical students who acted as dressers were also present. In the course of the evening the chairman presented to the members of the hospital burgess tickets constituting them freemen of the City of Glasgow.

March 5th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Cullen Case.

WHAT has been known as the "Cullen case," has caused much interest in Dublin for a period of many months and has been the subject of much comment in the press. It will be remembered that an outbreak of enteric fever took place more than a year ago at the north side of Dublin which was traced to infected milk supplied from a dairy situated in the Castleknock district, the proprietor of which suffered from that disease. The Local Government Board held an inquiry, and although the resident medical and sanitary officer declared that he was not aware that his patient owned a dairy, the Board after full investigation decided on calling for the resignation of the two officers of the corporation who had neglected to inspect or register it, and of Mr. J. J. Cullen, the dispensary medical officer, who had omitted to notify the case. The latter tendered his resignation, but the board of guardians declined to accept it and appointed him to do the medical work of the district as "locum-tenent," a position which he has held for many months and up to the present date. On August 10th, 1900, the Local Government Board applied for a conditional order for a mandamus directed to the guardians of the North Dublin Union ordering them to elect a duly qualified person in the place of Mr. Cullen. On August 15th, when an application was made by the guardians for an extension of time to enable them to show cause against the conditional order, Mr. Justice Barton said that the motion ought to be heard by the full court. He said that there could be no more important case than this, in which a great department of the State was in conflict with one of the elected representative bodies of the country. Therefore it ought to be heard by the full court, and their decision should be accompanied with all the authority which a court of justice could give to a case of this kind. Accordingly, on Nov. 29th the application of the Local Government Board for Ireland against the Board of Guardians of the North Dublin Union was heard in the Queen's Bench Division before the Lord Chief Baron, Mr. Justice Andrews, and Mr. Justice Boyd, the arguments being sustained by a full representation of the Irish Bar and occupying two days. On Dec. 10th the Lord Chief Baron delivered the judgment of the court and said that the conditional order for a mandamus would be made absolute. The merits or demerits of Mr. Cullen's conduct were not considered and were pronounced to be inadmissible, the decision of the court, as the Lord Chief Baron stated, being based on purely legal and technical grounds. He said that the Local Government Board were wrong in their plea that Mr. Cullen's resignation (sent to the Local Government Board and to the board of guardians but not accepted by the latter) rendered his position vacant, but that *per contra* the appointment of him as a "locum-tenent" signified that the dispensership at Castleknock was vacant. The latest stage of this weary case, and one which perhaps gives it some additional importance, is as follows On Feb. 27th the weekly meeting of the North Dublin Rural District Council was held when the Lord Mayor of Dublin, Mr. Harrington, M.P., after a speech in which he arraigned the action of the Local Government Board, proposed a motion that Mr. Cullen was a fit and proper person to fill the position of medical officer to the Castleknock and Blanchardstown district. That was, of course, directly opposed to the decision of the Irish Local Government Board, which had notified in a formal letter published in the papers that Mr. Cullen was inadmissible as a dispensary officer for that district, although he was eligible for any other Poor-law appointment. In accordance with the direction of the Board that a new election must be held, the guardians later that day received applications from five candidates for the post legally vacant. The applicants included Mr. Cullen, and he was re-elected by a majority of 35 to 3. It seems impossible to say positively what may be the outcome of this unfortunate conflict between the Local Government Board for Ireland and the guardians of the North Dublin Union, but the matter must be settled very soon. The guardians complain that the Board were discourteous in omitting to lay before them the evidence received at the inquiry and the reasons which led the Board to require the resignation of the guardians' medical officer in whom they always had, and still continue to have, confidence. The Local Government Board cannot, however, be expected to alter the decision at which they arrived so many months ago and which they have since upheld by expensive legal proceedings.

Death of Mr. Bellew Kelly of Drogheda.

Mr. Bellew Kelly, J.P., whose death took place on Feb. 28th after a short illness, was one of the best known, most popular, and most highly esteemed of provincial practitioners in Ireland. He was a Fellow of the Royal College of Surgeons in Ireland for more than a quarter of a century and was looked upon as a trustworthy consultant in the county of Louth for many years. He formerly filled the office of high sheriff there, was a vice-president of the Irish Medical Association, and held many local appointments which are now rendered vacant by his death.

Presentation to Mr. Frederic W. Kidd, M.D. R.U.I.

A committee representing the staff, students, and nurses of the Coombe Lying-in Hospital who wished to mark the occasion of the termination of Dr. Frederic W. Kidd's period of office as master of the institution by some token of their esteem, waited on him at his residence on March 1st and presented him with a valuable watch.

The Health of Belfast.

At a meeting of the Statistical and Social Inquiry Society of Ireland, held in Dublin on Feb. 22nd, a paper was read by Councillor H. O'Neill, M.D. R.U.I., on the Progress of Sanitary science in Belfast. In returning the thanks of the society to Dr. O'Neill for his lecture the Registrar-General for Ireland (Mr. Matheson) gave some statistics in order to put before the society exactly the state of things in Belfast with regard to its death-rate and the public health. From the returns issued in his department it appeared that during last year there were registered as having occurred in Belfast 42 deaths from measles, 14 from scarlet fever, 2 from typhus fever, 145 from whooping-cough, 54 from diphtheria, 8 from simple continued and ill-defined fever, 261 from enteric fever, 241 from diarrhœa and dysentery, 1115 from phthisis, 1784 from diseases of the respiratory system, and 163 from various other maladies. In this list he directed special attention to three features, the first of which was the large number of deaths from enteric fever, which were 261 in 1900, 263 in 1899, 640 in 1898, 354 in 1897, 136 in 1896, 188 in 1895. 145 in 1894, 122 in 1893, 108 in 1892, and 151 in 1891. In other words, for the past 10 years the average deaths from enteric fever in Belfast had been 236, and these deaths were not in one locality but were scattered all over the city. The mortality from this disease was very serious in Dublin, but it was worse in Belfast for while the average was 154 for the 10 years in Dublin it was 236 in Belfast. The circumstances of the two cities were very different. In Dublin they had an old city with a legacy of very old houses and the soil polluted with the accumulation of filth for years and years. Belfast, on the contrary, was a comparatively new city and a good deal of it had been built within a period during which the requirements of sanitary science were pretty well known. Being curious to see in what class of houses enteric fever was found in Belfast the Registrar-General extracted from the records of his department the addresses of the persons who died from enteric fever in 1900, and he found that about a third of the cases occurred in houses which did not appear in the Belfast Directory of 1892 and which presumably had been built since that time. He would like to know more about the sanitary regulations introduced in the year 1892, what their nature was with regard to the sewerage of new houses since that date, and also what steps had been taken with regard to the sewerage generally in Belfast, seeing that this terrible disease existed all over the city, and that a large number of the cases must have been in houses comparatively recently built. The second serious feature in the mortality returns of Belfast was that the number of deaths from diphtheria amounted in 1900 to 54, and that 17 of these deaths, according to his returns, occurred in No. 12 district which in 1891 had a population of 23,000. He found that eight of these 17 occurred in houses which did not appear in the Belfast Directory of 1892 and which, he presumed, were houses erected since that date. The disease being connected with imperfect sewerage, how did it come about that so large a number of deaths were found in this particular quarter? The third feature in the death returns in Belfast was the 1115 deaths from that terrible disease phthisis. So far as his department was concerned the Registrar-General said that they would give the Corporation of Belfast every assistance to make their city a model one as regarded its public health. It need

hardly be added that this sweeping condemnation of the sanitary condition of Belfast, coming from an official like the Registrar-General of Ireland, has aroused a great deal of interest in that city and demands the utmost attention. At the meeting of the City Council held on March 1st the chairman of the Public Health Committee (Alderman J. Graham, M.D. R.U.I.), referred to the statement recently made by the Irish Registrar-General. He said that the department over which that gentleman presided was the most stupid of all the departments in Dublin Castle. When they estimated the population of Belfast in 1891 they under-estimated it by about 21,000, while they over-estimated the population of Dublin by 9000, and that made a serious difference when the respective death-rates were taken into account. Before making statements as he had done the Registrar-General should have made adequate inquiries in reference to the causes of enteric fever in Belfast. In his opinion there were other causes of enteric fever in Belfast than in the insanitary condition of the houses. There was the water-supply. With a pure water-supply Belfast would be one of the healthiest cities in the kingdom. Dr. Graham said he would like to tell the Registrar-General that in 1895 their death-rate in Belfast was 24·3 per 1000, and they had now reduced that to 21, while in Dublin the death-rate in 1895 was 30 per 1000, and at the present time it was 30·3. It did seem extraordinary that a gentleman in the position of the Registrar-General should make such charges against a city of which he prides himself that he was not an inhabitant, and he thought he had been very ill-advised in his attack on the health of Belfast. An animated discussion followed in the council after these remarks of the chairman of the Public Health Committee, some of the councillors defending the water commissioners, while others, as for instance Dr. J. D. Williamson, blamed the erection of houses on filthy and polluted "made" soil as the great cause of the prevalence of enteric fever in Belfast. Even at the present time, despite all the rules existing in reference to these so-called "dumped" grounds, it is stated that houses continue to be erected in situations where the soil is certainly not the virgin one.

The Royal University of Ireland.

At a meeting of the council of the Royal University Graduates' Association held on March 1st in reference to the proposed Commission of inquiry into the working of the Royal University of Ireland resolutions were passed requesting that such a Commission, if appointed, should be constituted after the manner of the Gresham or London University Commission which, in addition to its president, Earl Cowper, was composed of five eminent scientific, five literary, and two legal members. It was also urged that no person who had committed himself to any particular policy on the Irish University question or who is connected with any of the institutions likely to be dealt with by the inquiry should be appointed on the Commission. Further, the council condemned "the false and mischievous statements made by persons in official position in connexion with the Royal University of Ireland tending to lower the character of its degrees, which, notwithstanding admitted defects in the constitution of the examining board, are recognised by those who understand university affairs as not surpassed by those of any other university in the kingdom."

Belfast Maternity Hospital.

At the annual meeting of the supporters of this charity, held on Feb. 26th, the report which was presented showed that during the past year 282 patients had been treated in the wards with only one death and that in the extern department 204 poor patients had been attended in their own homes. The total receipts during the year had been £788 11*s.* 2*d.*, while the expenditure had been £713 9*s.* 3*d.* The capital account had been drawn upon to some extent.

March 5th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Responsibility of Medical Men for Certificates delivered by themselves.

DOCUMENTS written by medical men under the name of medical certificates which they hand over to their patients who are desirous of giving evidence as to the state of their health before courts of law or other authorities are very often given without due consideration. Too often the patient looks upon a certificate as something which the medical man cannot refuse, and the latter in his turn acts wrongly in acceding to the patient's wishes in the same spirit. The result is lamentable weakening of the trust reposed in these certificates, which have the name of *certificats de complaisance*, and nearly all the courts now insist upon a sworn expert examining them with a view to checking the statements therein contained. A certain number of trials which have lately taken place show that these certificates have their risks for the medical man whose responsibility is at stake. Some time ago a pharmaceutical chemist was convicted of assault by cutting and wounding a lady named R——. She produced a certificate signed by Dr. D——, and at the same time brought two witnesses of the assault. Later the pharmacist was able to furnish proofs that the whole case had been got up to injure him and that the two witnesses had been bribed by the woman. All three were sentenced to three years' imprisonment. The pharmacist next brought an action against Dr. D—— for having furnished a false certificate. As a matter of fact, all that he had done was to write down the patient's statement without taking the trouble to verify it. He was sentenced to pay a fine of 500 francs, the court, while censuring his imprudence, throwing no doubts upon his good faith. The judgment declared that although from the point of view of treatment or for prescribing the medical man may put faith in the statements of the patient, yet he must not certify as an actual fact and as verified by a personal examination the existence of an injury which he has not himself verified, and Dr. D——'s imprudence was all the more culpable inasmuch as he knew that his certificates were intended to furnish grounds for an action at law against another. A somewhat similar case has just been before the courts at Caen. A person named D——, to avoid payment of a debt, succeeded in making out that his creditor was a lunatic and in getting her placed in an asylum on the strength of a certificate furnished by Dr. C—— alleging that she was out of her mind. After eight days she was set at liberty since the asylum physicians could find no sign of madness about her. She accordingly claimed damages from M. D—— and from Dr. C——, the latter of whom was sentenced to pay 2000 francs damages. The court, in giving judgment, was of opinion that Dr. C—— had acted imprudently, carelessly, and in a profoundly mistaken manner; that although he had acted in good faith he was wrong in placing blind confidence in the obviously interested statements of D—— and his wife who represented the alleged lunatic as dangerous both to themselves and to the community; that he had not ascertained or determined upon any obvious manifestation of acute mania such as was attributed, without, however, any details being given, in his certificate referring to the alleged lunatic; that this was the more inexcusable inasmuch as he himself had known the alleged lunatic for a long time and was well aware that she had never shown the least sign of mental instability; and that he had formed his opinion simply upon the statements of the D——s, both husband and wife, without submitting the alleged lunatic to any examination or observation whatever and without any attempt to get at either the truth or the importance of the facts laid before him. Again, only last year a medical man was prosecuted for having given a certificate to one of his patients setting forth that the said patient was unfit for military service, and that without ever having been to see the patient who was in perfect health. As a rule medical men give these certificates owing to having too great regard for the feelings of their patients whom they do not wish to offend, but the various trials mentioned above must show them that by so doing they render themselves liable for much responsibility.

Hæmorrhage during Appendicitis.

At the meeting of the Academy of Medicine held on Feb. 19th M. Lucas-Championnière said that in his opinion the hæmatemeses which had been observed during an attack of appendicitis were comparable to the "black vomit" which had been noticed after certain abdominal operations. While allowing their extreme gravity he thought that they were sometimes curable, and mentioned that he had occasionally been able to put an end to them by washing out the stomach with an alkaline solution. He considered that the observations of M. Dieulafoy[1] pointed to the increasing frequency

[1] THE LANCET, March 2nd, 1901, p. 669.

of appendicitis, and that, too, under a graver form than previously. If in former times appendicitis had been as frequent as now the fact would surely have been noted by observers. These remarks applied equally to the appendicitis of pregnant women, of which disease M. Pinard had reported three cases as occurring in one month, although he himself had seen but one case in the 10 years during which he had practised obstetrics. Appendicitis, if not absolutely new, is at all events a different complaint from the typhlitis and perityphlitis of former days. As regards this point M. Lucas-Championnière stated that he was one of the first to advocate free and early opening of abscesses of the iliac fossa. From 1882 to 1898 he had operated on 34 such cases, while in 1899 and 1900—i.e., in two years—he had operated upon 19. If this proportion had existed during the former period the number would have been 152. Nowadays appendices are removed as a preventive measure and therefore iliac abscesses should become more rare. The increased frequency of appendicitis is due to the increase of the causes of intestinal infection, and he had been struck by the fact that appendicular affections were most common in meat-eating countries, such as the United States and England. The unmerited discredit into which purgatives have fallen also tends to cause intestinal infections. In the old days children were well purged at every change of season—a wise precaution which has fallen into desuetude. Purgation is the best way to fight against intestinal infection and this treatment could not be too strongly recommended provided that at the same time a strict dietary was enforced. In this way a large number of cases of appendicitis might be prevented from occurring. The discussion was continued on Feb. 26th, when M. Guyon gave an account of three cases of hæmatemesis due to urinary infection. He argued that these cases were a confirmation of the infectious origin of appendicular hæmatemesis. M. Dieulafoy said that he thought it likely that such conditions as were wont to be called intestinal occlusion, colic, volvulus, and abscess in the iliac fossa were entirely due to an unrecognised appendicitis, for laparotomy was then by no means common. M. Dieulafoy did not dare, as did M. Lucas-Championnière, to prescribe washing out the stomach in the cases of appendicular "black vomit." He considered that rest was necessary so that clots might form. He quite agreed with M. Lucas-Championnière that once a diagnosis was made operation was necessary. M. Lucas-Championnière said that despite everything appendicitis was increasing in frequency. All his cures had been obtained after washing out the stomach, for the removal of clots and the alkaline fluid diminished acidity and gave rest to the organ. M. Pinard hardly thought that appendicitis was really increasing, but in obstetric practice the peritonitis of pregnancy and that due to rupture of adhesions were now referred to their true cause—namely, appendicitis. M. Kelsch declared that he regarded appendicitis as a malady at first generalised, but which ended by giving rise to local manifestations. On this theory it was possible to compare the appendicitis of dysentery, of cholera, of influenza, and of cerebro-spinal meningitis, and to recognise that as these affections were either endemic or epidemic, so appendicitis might appear at certain epochs, might increase in frequency, or might disappear.

March 6th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Bacteriology of Acute Rheumatic Arthritis.

IT is very probable that in many cases of acute rheumatic arthritis the tonsil has been the channel of infection. In a paper read before the Verein für Innere Medicin and published in the *Deutsche Medicinische Wochenschrift* Dr. Meyer, assistant in the clinic of Professor A. von Leyden, announces that he has discovered a microbe which he suggests is of importance in connexion with the etiology of rheumatic arthritis. This organism was present in the tonsils of five patients suffering from rheumatic arthritis and when injected into rabbits caused symptoms very similar to that disease. It is described as a rather small diplococcus which usually forms chains. It is easily stained by anilin colours, but only to a slight extent by Gram's method. It does not grow well on any of the usual culture media, except on blood-agar. In growing it forms single soft droplets, which under the microscope show yellowish granular colonies with a somewhat darker centre. The cultures after a short time lose their virulence. When eight cubic centimetres of the culture were injected under the skin of rabbits much infiltration generally ensued, leading to necrosis of the skin but never to suppuration. After from six to 10 days one of the joints usually became swollen in consequence of serous or sero-purulent exudation containing no bacteria. The exudation disappeared after a week, but as a rule other joints were subsequently involved. The temperature of the animals rose to 40° or 41° C.; they, however, in most cases did not die. At the necropsy inflammation of the serous membranes was found as in the acute rheumatic arthritis of the human subject. Pericarditis was found in eight instances, peritonitis in three, and pleurisy in one. The results of the bacteriological examination of the fluid were negative. In seven instances endocarditis was present, partly in the warty and partly in the ulcerative form. In these seven cases the above-described organisms were met with twice in pure culture, and subcutaneous injections in rabbits again gave rise to articular exudation. In five instances the cultures remained sterile. Dr. Meyer concluded from his researches that these organisms producing specific effects on animals were characteristic of acute rheumatic arthritis because they were present only in the tonsils of patients suffering from that disease, and were never found in tonsillitis associated with other diseases, such as scarlet fever, septicæmia, influenza, &c. It is, however, doubtful whether the microbe is really the cause of the disease.

The late Professor von Pettenkofer.

The funeral of Professor von Pettenkofer, whose death has been already announced in THE LANCET,[1] took place on Feb. 12th. There was an enormous attendance, including every class of the population of Munich, where the deceased was one of the most popular citizens. In the cemetery appropriate addresses were delivered by the mayor of Munich on behalf of the city and by Professor von Ziemssen on behalf of the university. At the necropsy chronic meningitis of the dura mater and sclerosis of the cerebral arteries were found; there was also a chronic inflammation of the right knee-joint which had caused deformity and much pain and had contributed a good deal to the mental depression from which the deceased had suffered.

Vomiting induced by Chloroform Inhalation.

Vomiting is one of the most undesirable complications of chloroform anæsthesia. According to a recent article by Dr. Lewin this symptom is caused by direct irritation of the stomach by the chloroform and not, as in the case of some other toxic substances, by an irritation of the brain. In the first stage of the anæsthesia, when the lungs are filled with chloroform vapour, the patient executes the movements of swallowing and the chloroform is brought into contact with the mucous membrane of the stomach. It then depends on the degree of irritability of the gastric nerves whether vomiting takes place or not. The vomiting which occurs after the end of the anæsthesia and often continues for several hours is caused by chloroform which has passed into the circulation and is eliminated through the gastric glands. There has not hitherto been any certain means of guarding against this complication. The principal precaution is, of course, for the patient not to take food for a certain time previous to the induction of the anæsthesia so that the stomach may be empty; but everybody knows that vomiting cannot be absolutely prevented in this way, for even in surgical clinics and hospitals where the patients are under strict observation vomiting is very frequent during, or after, anæsthesia. Dr. Lewin's views of the causation of vomiting during chloroform anæsthesia have led him to suggest that the sensibility of the nerves of the stomach may be reduced by means of a local anæsthetic and that its mucous membrane may be covered with a substance which will to some extent protect it from the chloroform. He recommends the administration of cocaine in a small dose (one decigramme) dissolved in sufficient water to flow over the whole of the mucous membrane. For the mechanical protection of the stomach against the action of chloroform he recommends mucilaginous substances which from their adhesive power tend to remain a somewhat long time in the stomach. The most suitable substances are one part of gum arabic dissolved in two parts of water, carrageen moss, and tragacanth. It is desirable that the patients should

[1] THE LANCET, Feb. 16th (p. 490) and 23rd (p. 589), 1901.

take a dose of this from three to four hours previous to, and another dose immediately before, the operation.

March 4th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The Imperial Medical Society.

THE Imperial Medical Society, which was founded by the medical officers of the allied armies in 1855, celebrated its forty-sixth anniversary on Feb. 15th. It is on this day that the election of officers takes place. The officers for the session 1901–1902 are as follows: President, Dr. Mordtmann, representative of the German Empire on the International Sanitary Council; vice-presidents, Dr. Stepochief (the chief physician of the Russian Hospital) and Dr. Noulis. The outgoing secretaries were re-elected. The following honorary members were elected: (1) Dr. Caramitza, professor of pathology in the medical school of Athens, who celebrated the twenty-fifth anniversary of his professorship in that university in February; (2) Dr. Walter Wyman, supervising surgeon-general of the United States Marine Hospital Service; and (3) Professor Heubner of Berlin. At the conclusion of the elections the members of the society dined together and the new President proposed the health of the Sultan. It is greatly to be desired that the statements made in the President's speech should come to the knowledge of the Sultan, as something might then be done to place the society in a more satisfactory position. The Turkish Government seems to forget that the Imperial Medical Society is the oldest scientific association in Turkey and is entitled to the credit of initiating all the sanitary improvements which have been made in the country.

Public Health in Constantinople.

The prevailing disease here since the beginning of the winter has been influenza, which, however, has been of a mild character. Many of those who are attacked think it unnecessary to have medical attendance and prefer to treat themselves with domestic remedies. A lady who suffered from influenza and was following this system met with a sad accident a few weeks ago. While applying to her chest an alcoholic solution of camphor she thoughtlessly went too near a stove, the alcohol caught fire, and she was so severely burned that she died in two days. In addition to the influenza there have also been some cases of measles and diphtheria.

Plague.

A girl, aged five months, who had been taken on board at Alexandria died on the steamer *Apollo* a few hours before the arrival of the vessel at Rhodes on Feb. 13th. The medical officer of the sanitary service at Rhodes having found enlarged glands in the child's right groin and armpit, the passengers and crew and the inhabitants of Rhodes who had been in communication with them were at once placed under medical observation and the vessel was sent to the lazaretto at Clazomenes for disinfection and for the making of a microscopical examination of the child's enlarged glands.

The International Sanitary Council.

Some progress has been made towards the adjustment of the difficulties which have arisen in connexion with the appointment of the inspector-adjoint of the International Sanitary Council. As I have already mentioned,[1] the Turkish delegates on the council, according to the international stipulations, must not exceed eight in number and two of these must be medical men professing the Christian religion. After the death of Dr. Vitalis, the late inspector-adjoint, the Turkish Government appointed two delegates, one who had been a custom-house official and one who was a medical man, so that the number of Turkish delegates was raised to nine, and the foreign Governments protested. The Turkish Government have found a way out of the difficulty by promoting Lutfi Bey, one of the Turkish delegates and a medical man, to the rank of pasha and general, and he will accordingly leave the sanitary service and take his place among the medical officers of the army. The appointment of the new inspector-adjoint still has to be made. He must be a medical man professing the Christian religion, must have been engaged in the sanitary service, and must have travelled in Turkey so as to possess an acquaintance with the sanitary condition of the country.

[1] THE LANCET, Dec. 22nd, 1900, p. 1846.

March 1st.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Infection of Contagious Diseases in Clothing.

THE health officer of the Port of New York, Dr. A. H. Doty, in a paper read at the late meeting of the American Public Health Association, took the ground that infectious diseases were rarely communicated by the clothing of persons. In a recent letter he replied to criticisms of his opinion as follows:—"What I presented was not a theoretical conclusion but a plain statement of facts which have come under my observation during a continued experience of 20 years with infectious diseases, both in connexion with this department and the New York City Board of Health. I am well aware that what I have said is antagonistic to the views held by many physicians, nevertheless it is the result of careful, practical observation, and such observation must receive the most careful consideration in making rules and regulations for the protection of the public health. Some of the most careful observers, both in this country and abroad, are in accord with the views which I have presented. As a matter of fact, these views are apparently endorsed by the medical profession, both in private practice and in matters relating to public health, inasmuch as physicians daily visit infectious diseases and go from them directly to other patients without disinfection or change of clothing. Moreover, health departments throughout the country permit their inspectors and diagnosticians to visit infectious disease in the same manner. For instance, in families where scarlet fever exists the adult members, who are actively employed outside, are allowed to continue their business without interruption. Of course, they are usually admonished not to enter the apartment of the sick when at home. In a large percentage of cases the patient roams about the house or apartment at will. Therefore, if the clothing worn by well persons was a medium of infection to the extent which is commonly believed, we would certainly and surely have indisputable evidence of it, which we do not. If such were the case physicians and health department officials would be continually aiding and abetting the propagation of disease in the most serious and pronounced way, inasmuch as they go directly from one patient to another, sometimes within the interval of only a few moments. I have distinctly stated in my paper that infectious diseases may in some cases be transmitted through the medium of the clothing of well persons. This statement gives no licence to ignore reasonable precautions which may be deemed necessary to prevent the transmission of infection in this manner. I believe this answers the point raised by the committee in regard to small-pox quarantine. As a matter of fact, the small-pox patient should in no case remain with the family; and either the patient or the remainder of the family should be removed from the immediate premises. Therefore, no excuse would exist for persons, aside from the nurse and physician, visiting or being in contact with the patient, which would be done at a personal risk. My object has been to show that infectious diseases are not commonly transmitted in the clothing usually worn by well persons, and we must not give this undue consideration in making rules and regulations for the protection of the public health. While this does not release us from every reasonable effort to prevent danger from this source it teaches us that we must also look elsewhere for the origin of outbreak of infectious disease. It is an easy means of satisfying ourselves and the public to assume that outbreaks of small-pox, scarlet fever, &c., have their origin in infected clothing worn by well persons, whereas in many of these instances the appearance of the disease is unquestionably due to mild ambulant or convalescent cases in our midst unrecognised. If we are satisfied that the clothing of well persons is in some way responsible for the outbreak, then we are apt to make no further investigation, which I believe to be decidedly wrong. Bacteriological research goes far towards confirming what I have already said regarding this matter and we know that pathogenic organs are exceedingly short-lived in the presence of air and sunlight. Experience in the New York City Board of Health for 15 years before assuming this office, both in the

capacity of diagnostician and the Chief of the Bureau of Infectious Diseases, has given me an opportunity for the study of this subject which comes to very few. We cannot preach one thing and act another. If it is true that the clothing of well persons acts as a medium of infection, then both physicians and health departments are committing a serious error in the manner in which they visit their cases. On the other hand, if the clothes actually worn by the well persons only in rare instances act as a medium of infection, as I believe, then the attitude of physicians and health departments in regard to their inspection of these cases is proper."

Defining the Term "Practice of Medicine."

The New York County Medical Society is endeavouring to secure the passage of an Act by the Legislature which shall so define the term "practice of medicine" as to include and render easy the punishment of all exponents of false and fraudulent systems of medical treatment. It provides that "Any person shall be regarded as practising medicine within the meaning of this Act, who shall prescribe, recommend, direct, or advise for the use of any other person, any remedy or agent whatsoever, whether with or without the use of any medicine, drug, or instrument, or other appliance for the treatment, relief, or cure of any wound, fracture, or bodily injury, infirmity, mental or physical, or other defect or disease." A few exceptions follow such as the administration of domestic remedies by one member of a family to another and the treatment of their men by army and navy officers. It is alleged in opposition that the Bill, as it stands, would prevent one from advising a friend to invest in a box of cough drops and would render it illegal for the manufacturers of proprietary medicines to advertise in the usual way, for an optician or truss-maker to serve customers not provided with a physician's prescription; or for a shoemaker to take into account a patron's corns in providing him with boots. The pharmacists are opposing the Bill on the ground that it would prevent the advertising of medicines, the printing of directions on bottles by the manufacturers of the medicines, and the recommendation of any such medicines by druggists.

Exemption of Hospitals from Liability.

Suits against hospitals for damages are becoming so frequent that the institutions are seeking legislative relief. A Bill at present before the New York Legislature provides that no hospital incorporated under the law of the State, sustained in whole or in part by charitable contributions or endowments, shall be liable for the neglect, carelessness, want of skill, or for the malicious acts of its officers, agents, or employés in the management of or in the care or treatment of any of the patients or inmates of such hospital. It shall not be lawful for any such hospital to make or to enter into any agreement whereby liability shall be incurred for such neglect, want of skill, or malicious acts, and any such agreement shall be void. Nothing in the Bill shall be so construed as to impair any remedy under existing laws which any persons may have against any officer, agent, or employé for any wrongful act or omission in the course of his official conduct or employment.

Stimulating Effect of Lofty Altitudes with Accompanying Exercise.

It is reported that at the suggestion of the director of the biological laboratory of the University of New Mexico, the late Dr. Maltby undertook a study of the blood of persons in the plateau region, and this work, interrupted by his death, has been prosecuted with vigour by Professor Weinzirl, who has collected a large amount of data. It is found that the blood corpuscles are greatly increased in number when a person from a low altitude reaches a higher one, but this effect, with the powerful stimulus involved, is only transitory, and the curve representing the blood corpuscles soon grows less, and finally returns to the level of the starting point. Observations have shown that while persons who have long resided in New Mexico have no more blood corpuscles than those residing in lower regions, these same persons may renew or repeat the original effect of altitude by a short residence at the seashore or elsewhere. What amounts to the same thing is that one residing at an altitude of 4000 or 5000 feet may secure all the powerful stimulating effect of the altitude on the blood by periodical visits to the altitude of Santa Fé or Magdalena, 3000 feet higher. In these cases the effect is greatly increased by out-door life and exercise because there is an intimate relation between the activity of the lungs and the blood stimulation. At the same time, it was found that rabbits kept in confinement would show the same increase on being carried from Albuquerque to Camp Whitcomb.

Feb. 18th.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS—The following gentlemen passed the second examination of the board at the quarterly meeting of the examiners in the subjects indicated:—

Anatomy and Physiology.—John Aylen, St. George's Hospital; Ernest Charles Edward Barnes and Charles Harold Berry, University College, London; Tom Bates and John Arthur Bell, St. Bartholomew's Hospital; John Foster Beale, B.A. Cantab., Cambridge University and London Hospital; Hugh Wood Bethell, Cambridge University and Guy's Hospital; Bartram Raleigh Bickford, Charing Cross Hospital; Gerald Arthur Bradshaw, St. Mary's Hospital; Frederick William Broderick, Mason University College, Birmingham; James Bromley and Claude Marriott Lovell Cowper, Guy's Hospital; Stephen Estridge Crawford, St. Bartholomew's Hospital; Harry William Beresford Danaher, London Hospital; Norman Edwin Dunkerton, King's College, London; William James Edgar, St. Thomas's Hospital; Armin Gascoigne Vavasour Elder, St. George's Hospital; William Henry Elwood, Queen's College, Belfast; Charles Ashley Flintoff, Charing Cross Hospital; Christian Ernest Paul Groth, London Hospital and Cambridge University; Sydney Herbert Gibson, B.A. Cantab., and Thomas Barker Amyand Haggar, B.A. Cantab., Cambridge University and St. Bartholomew's Hospital; Vahan Hagopos James Giragosian, Horace Bryden Hill, and Richard Holthy, St. Bartholomew's Hospital; James Clark Hall, St. George's Hospital; Cuthbert Murray Halsall, University College, Liverpool; Thomas Brooke Hickley, Westminster Hospital; Nelson Wood Hill, London Hospital; Eardley Lancelot Holland, King's College, London; Mark Oliver Hunter, B.A. Cantab., Cambridge University and St. George's Hospital; Henry Johnson, Guy's Hospital; Graham Charles Lawson, Cambridge University and St. Thomas's Hospital; William Kingdon Legassick, University College, London; Thomas Clarkson Maxwell, King's College, London; Reginald Henry Miller, St. Mary's Hospital; Robert Vernon Grand Monckton, St. Bartholomew's Hospital; Herbert Edward Morris, Guy's Hospital and Cooke's School of Anatomy and Physiology; Basil Newman Murphy, University College, Liverpool; Krishna Moreshwar Pardhy, L.M. and S. Bombay, Grant Medical College, Bombay; Christopher Parker, Westminster Hospital; Arthur Robert Phelps, Cambridge University and St. Thomas's Hospital; William Frederic Pierce, Owens College, Manchester; Carl Henry Reinhold, Guy's Hospital; Vyvyan Kendall Sadler, University College, London; Arthur Philip Salt, St. Bartholomew's Hospital; Eric Slack, B.A. Cantab., Cambridge University and Middlesex Hospital; Douglas Montague Brooking Snell, St. Thomas's Hospital and Durham University; William Arthur Tatchell and Henry Blanchard Walters London Hospital; Frederick Herbert Wallace and Hugh Watts, Guy's Hospital; Vernon Northwood Whitamore, Charing Cross Hospital; and Ralph Kuper White, St. Mary's Hospital.

Anatomy only.—Andreas Nell, L.M. and S Ceylon, Colombo Medical College, Ceylon, and University College, London, and Clifford Greville Simms, Middlesex Hospital and Cooke's School of Anatomy and Physiology.

Physiology only.—James John Anning, Yorkshire College, Leeds, and Rowland Wilbraham Hill, Owens College, Manchester.

ROYAL COLLEGE OF SURGEONS OF ENGLAND—The following gentlemen passed the Preliminary Science Examination for the Licence in Dental Surgery at the quarterly meeting of the examiners:—

John Joseph Armitage, North Polytechnic Institute, Holloway; Francis William Bartle, City of London College; Tom Treherne Barton, Charing Cross Hospital; Horace Stanley Chandler and Horace Croot, Guy's Hospital; Alfred Braithwaite Charlick, School of Science, Technology, and Art, Liverpool; William Alexander Clements, Municipal Technical School, Manchester; R. Wilfrid Cross, Holt School of Science, Birkenhead; Gerald Lang Dymott, Birkbeck Literary and Scientific Institute; Archibald Roland Durant, Edward Farrant, Archibald Louis George, and Albert Goodey, Guy's Hospital; Arthur Barber Hawkes and Alfred John Higson, Charing Cross Hospital; William Hopton and Alfred Henry Mace, Owens College, Manchester; Harold Whightman Jones, Guy's Hospital; Bannar Harry Martin and Rupert Josiah Messent, Municipal Technical School, Brighton; Percy Norman Owen, Mason University College, Birmingham; Charles Lucey Palmer, Reading College; Charles Cook Pooley, Higher Grade Board School, Norwich; Frank Ernest Probyn and Percy Hartley Rodgers, Charing Cross Hospital; Leonard Urban Ransford Norman Bowden Soper, William Stuart Stevens, and Thomas Vernon, Guy's Hospital; Ernest Le Masurier Spurgin, Municipal Technical School, Brighton; Attilio Regolo Setacci, Polytechnic Institute, Regent-street, and Joseph Hindle Westmorland, Owens College, Manchester.

The following gentlemen having passed the necessary examinations have been admitted by the two Royal Colleges Diplomates in Public Health:—

Thomas Gibson, M.D., C.M. Edin., Edinburgh University and King's College, London; Thomas Halliwell, L.R.C.P. Lond., M.R.C.S. Eng.,

Guy's Hospital; Hugh Campbell Highet, M.D., C.M. Glasg., Glasgow University; Thomas Battersby Jobson, M.D. Dublin, Trinity College, Dublin, and St. Bartholomew's Hospital; Peter Narrainsawmi Lakshmanan, L.R.C.P. Lond., M.R.C.S. Eng., M.B., C.M., Madras, Madras University and King's College, London; Charles Gordon Moffit, L.R.C.P. Lond., M.R.C.S. Eng., University College, London; Claude Rundle, M.B. Lond., L.R.C.P. Lond., M.R.C.S. Eng., St. Mary's Hospital and King's College, London; and Arthur Herbert Spicer, M.B., B.S. Lond., L.R.C.P. Lond., M.R.C.S. Eng., Guy's Hospital.

UNIVERSITY OF CAMBRIDGE.—At the congregation held on Feb. 28th the following degrees were conferred:—

M.B.—C. J. Coleman, Trinity.
M.B. and B.C.—W. H. W. Attlee, St. John's; and F. E. Brunner, Caius.

THE LATE MR. J. P. BEVAN.—Mr. John Paul Bevan died suddenly from an apoplectic seizure at his residence, North-place, Cheltenham, on Feb. 25th, in his fifty-third year. Mr. Bevan was the son of a Nonconformist minister and was born at Oakham, Rutlandshire. He received his medical education at Guy's Hospital and became qualified as M.R.C.S. Eng in 1873 and L.R.C.P. Lond. in 1874. Mr. Bevan then commenced practice in Cheltenham and in 1874 he was appointed medical officer for the No. 1 district of the Cheltenham Union—a post he held till the time of his death. He was also for several years public vaccinator and surgeon to the Cheltenham Dispensary.

LITERARY INTELLIGENCE. — M. G. Steinheil, medical and scientific publisher, 2, rue Casimir-Delavigne, Paris, asks us to state that original subscribers (i.e., since the year 1878) to Professor Tarnier's "Traité d'Accouchements" may now obtain from their booksellers the newly-published fourth and last volume. Subscribers who paid their subscriptions to the publisher direct are requested to inform him how the fourth volume is to be sent to them. If forwarded by post it will be registered, unless otherwise specially directed, the cost of postage and registration being 1 franc 60 centimes, to be paid in advance. The contents of the four volumes are as follows: 1. Grossesse et Accouchement Physiologiques; 952 pages, 285 illustrations. 2. Pathologie de la Grossesse; 586 pages, 66 illustrations. 3. Dystocie Maternelle; 771 pages, 168 illustrations. 4 Dystocie Fœtale; Opérations; 734 pages, 250 illustrations.

ROYAL FREE HOSPITAL. — The Marquis of Northampton presided on Feb. 27th at the seventy-third annual court of the governors of the Royal Free Hospital, Gray's Inn-road. The annual report stated that the total number of patients who had been treated during the year was 36,560, the majority of these patients coming from the neighbourhood in which the hospital is situated, one of the most crowded and poorest in the metropolis. The chairman, in moving the adoption of the report, referred to the loss which the charity in common with many others had sustained in the death of its Royal patron, Queen Victoria. With reference to the report, he expressed himself as being struck with the consecutive progress made by the hospital. The building had been greatly improved and every effort had been made to bring the hospital up to the standard of modern requirements. The total reliable income being only one-third of the necessary expenditure it behoved all present and their friends to do their utmost to lessen the harassing care of the committee who had to carry on the work. No doubt much had been given during the past year to the military funds, but surely it was clear, said the chairman, that true charity lay in giving extra when circumstances made it urgent; no charity was worth the name that did not call for self-sacrifice. Mr. Charles Burt, chairman of the weekly board, seconded the motion, and stated that the hospital began the year with a debt of £1300 and the financial position caused the board much anxiety. The hospital was most economically administered, although the work in each department was done thoroughly and efficiently. Mr. Burt announced that in May next the governors would make a new departure by appointing two qualified medical women as resident medical officers to attend women and children patients. A further resolution was passed that a petition be sent to the King humbly praying His Majesty to continue the patronage which was accorded to the hospital by Queen Victoria throughout the 64 years of her glorious reign. Among other speakers were the Earl of Stamford, Captain Jessel, M.P., Mrs. E. Garrett Anderson, M.D., Dr. S. West, and Mr. James Berry. At the close of the proceedings the governors visited the wards and the new rooms provided for the nursing staff.

COOKERY EXHIBITION.—The twelfth Universal Cookery and Food Exhibition will be held this year at the Prince's Skating Club, Knightsbridge, from June 11th to the 15th.

MEASLES NEAR BARNSTAPLE.—At the meeting of the Barnstaple Board of Guardians, held on March 1st, Mr. G. L. Thornton, the district medical officer, stated that a severe epidemic of measles had broken out in the country district, and he was allowed an assistant for a fortnight.

BRISTOL ROYAL HOSPITAL FOR CHILDREN AND WOMEN.—Earl Roberts, K.G., V.C., at the instigation of the Duchess of Beaufort (president of the bazaar committee), has promised to open, on May 1st, at the Colston Hall, the bazaar in aid of the funds of the Bristol Royal Hospital for Children and Women.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—A meeting of the Fellows will be held on Tuesday, March 19th, at 1 o'clock, to elect two members of the Council. One vacancy was caused by the death of Mr. A. H. Jacob and the other by Sir William Thomson being unable to make the requisite declaration within one month of his election. The candidates for the vacancies are Sir William Thomson and Mr. Robert H. Woods, both surgeons to the Richmond Hospital, Dublin.

CHARITY AND THE DRAMA.—Dr. Lionel A. Weatherly gave an interesting lecture on March 1st at the meeting of the Bath Literary and Philosophical Association on "Reminiscences of 30 Years of Amateur Acting." Major Simpson presided and referred to the fact that Dr. Weatherly had during his 30 years of amateur acting been instrumental in raising no less than £10 000 for various charities. Dr. Weatherly, who is well known in connexion with the amateur week in aid of the Royal United Hospital, Bath, was at the close of the lecture awarded a hearty vote of thanks.

CHARITABLE DONATIONS. — At the annual meeting of the friends of the Liverpool Country Hospital for Chronic Diseases of Children on March 4th a letter was read from a writer, whose name was not disclosed, who said: "I shall be very pleased to give a donation of £5000 to your building fund provided you can get three other donations of £5000 each, thus making up your building fund to £20,000, and that a further sum of £10,000, in any sums, be raised as a maintenance fund and invested in the names of your trustees, the interest alone to be expended." A cheque was received for £1000 from Mr. Holbrook Gaskell, and one for £500 from Mr. A. L. Jones.

PRESENTATIONS TO MEDICAL MEN. — At a numerously attended meeting on March 2nd of ambulance representatives, held at the fire station, Council House, Handsworth, Mr. James Richmond, M.B. Oxon., M.R.C.S. Eng., D.P.H., was the recipient of a "surprise pendant" gaselier as a mark of appreciation for his services to the Handsworth centre of the St. John Ambulance Association.—Mr. Harry Hutchinson, L.R.C.P. Irel., L.F.P.S. Glasg., L.S.A. Lond., of East Ham, has been presented by a few personal friends and patients in the locality with a gold-mounted dressing-bag, a set of aseptic surgical instruments, and a large silver tray.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL.—The Earl of Hardwicke presided at the annual meeting of governors and subscribers of this charity, which was held at the hospital in the Marylebone-road on Feb. 25th. Among those present were the following: Mr. F. G. Cavendish Bentinck, Rev. Henry W. Casserly, Mr. F. Herbert Davies, Captain Norcliffe Gilpin, Mr. H. A. Harben, Mr. F. W. Hunt, Mr. Richard Martin, Major W. McMahon, Mr. H. J. Royds, and Dr. Arthur F. Stabb.—Lord Hardwicke referred to the great loss which the nation had sustained by the death of Queen Victoria, and stated that Her late Majesty had been patron of the charity from the year 1850 until her death, and had been a generous subscriber to its funds. The committee had sent a letter of condolence to His Majesty the King. The report stated that 1183 in-patients and 971 out-patients had been delivered during the year, including 75 wives of soldiers, sailors, and reservists who were fighting in South

Africa (55 as in-patients and 20 as out-patients). Her late Majesty Queen Victoria had, only a few days before her death, been graciously pleased to express her gratification at the special facilities that had been arranged for receiving the soldiers' wives, and Her Majesty Queen Alexandra had also expressed her great pleasure that these arrangements had been made. The expenditure for the year had been £871 in excess of the income, and the chairman made an urgent appeal for additional support to enable the committee to meet the increased expenditure caused by the larger hospital and the increase in the number of patients and by the rise in prices of many articles of hospital consumption.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Proposed Exemption of Hospitals from Local Rates.

MR. LAWSON WALTON has introduced in the House of Commons a Bill providing for the exemption of hospitals from local rates. The place obtained for the order for its second reading is not one which offers much hope of the measure being discussed.

Hours of Labour in Shops.

The question of the hours of labour in shops is to be inquired into by a Select Committee of the House of Lords on which the Prime Minister, the Bishop of Winchester, Lord Avebury, and other peers will serve.

HOUSE OF LORDS.

THURSDAY, FEB. 28TH.

Ambulance Wagons and Hospital Tents.

Lord RIBBLESDALE called the attention of the House to the suggestions made by the South African Hospitals Commission with regard to ambulance wagons and hospital tents and asked the Government whether any steps had been taken or were contemplated for giving effect to them.—Lord RAGLAN (Under Secretary of State for War) replied that changes were in contemplation in the pattern both of the ambulance wagons and of the hospital tents, and experiments were now being made, but it was extremely difficult to find the ideal tent or the ideal wagon; and at present it was undesirable to put a stop to inquiry and experiment. The War Office was anxious to benefit by the experience of officers who had been in South Africa, some of whom were not yet home; but up to the present the following steps had been taken: In July last a new pattern ambulance was built to the specification of the Royal Army Medical Corps and was sent down to Aldershot for experiment and report. The wagon was 1cwt. lighter than the old pattern and it carried more men. The old pattern carried 12 men seated or four seated and two on stretchers. The new pattern carried 14 seated or six seated and four on stretchers. The War Office had obtained as much information as possible about the ambulances in use in foreign armies, especially about the Austrian ambulance, of which many favourable reports had been received. This type had been sent to Aldershot for report and would then be sent to Woolwich, where the officials would confer with officers of the Royal Army Medical Corps and of the transport department who had recently returned from South Africa. The question of tents was much complicated by the question of climate. The tortoise-tents were at first reported on very favourably from South Africa, but recent reports were not so good. It was not the ideal tent in bad weather; and another, more satisfactory, seemed to have been found. Trials of many kinds of tents were made last summer and autumn. Although there was unusual pressure at the War Office no time would be lost in remedying any defects which could be dealt with immediately.

HOUSE OF COMMONS.

THURSDAY, FEB. 28TH.

Woodstock Hospital still Being Used.

Mr. ARTHUR STANLEY asked whether Woodstock Hospital, Cape Town, was still being used for enteric fever patients, and whether, in view of the smells which were acknowledged to exist at Woodstock, any steps had been taken to find another and more suitable site in the neighbourhood of Cape Town.—Lord STANLEY replied that the hospital was still being used for enteric fever patients. Many improvements had recently been made in the hospital and the senior medical officer in charge now described everything as satisfactory. The only change contemplated was the removal of the drainage outfall.

The Small-pox Epidemic in Glasgow.

Mr. THOMAS BAYLEY asked the Lord Advocate if he would institute an inquiry into the outbreak of small-pox in Glasgow in a manner similar to that in which the Local Government Board had granted inquiries on the occasions of recent outbreaks in England; and if he would extend such inquiry into the sanitary conditions of the city and its water-supply.—The LORD ADVOCATE: I am informed by the Local Government Board for Scotland that there does not seem to them to be any reason at present for instituting an inquiry into the sanitary condition of Glasgow and its water-supply. The reference to the practice of the English Local Government Board is, I am informed by that Board, rather misleading. That Board usually send one of their medical inspectors to a district where small-pox is epidemic, in order that he may assist the local authorities with his advice and experience, but the Board have not on any recent occasion held an inquiry into an outbreak of small-pox.

FRIDAY, MARCH 1ST.

Lead and Arsenic Poisoning.

Mr. COGHILL asked the Home Secretary whether his attention had been called to the evidence given before the Arsenical Poisoning Commission as to the similarity of the symptoms of poisoning from arsenicised beer and from plumbism, and that Professor Oliver and Professor Thorpe had reported that beer was largely taken in the Staffordshire potteries as an antidote to plumbism; and whether many of the reported cases of plumbism in the last four months of 1900 were cases of arsenical poisoning.—Mr. RITCHIE: Having made inquiries into this matter I find that during the last four months of 1900 three cases reported as cases of plumbism were considered by the medical inspector of factories and workshops to be really cases of arsenical poisoning and were excluded from the returns of lead poisoning. The cases are always carefully scrutinised for mistakes in reporting, and there is no reason to think that there were any other such cases not detected.—Mr. COGHILL: Was complaint made of the beer supplied by the local brewers during these months?—Mr. RITCHIE: I have received no such complaint.

The London Water Question.

Mr. WALTER LONG, in reply to Dr. MACNAMARA, said that he had no power to require the water companies to pay the cost of the public inquiry into the proposed new regulations. He might add, he said, that if he possessed the power he should not consider that it ought to be exercised in this case.

MONDAY, MARCH 4TH.

No. 8 General Hospital.

Mr. BURDETT-COUTTS asked the Secretary of State for War whether he was aware that No. 8 General Hospital, one of the two largest hospitals at Bloemfontein, had remained on the same site for over 10 months, the ground being thoroughly infected with enteric poison in consequence of the number of enteric fever cases treated there during and since the epidemic of last year; whether, in view of the increased rate of mortality from enteric fever in South Africa, immediate inquiry would be made as to why this hospital camp, in accordance with recognised principles of sanitation, should not have been long since moved to an entirely new site; and whether he could give the number of enteric fever cases admitted to this hospital and the number of enteric fever deaths in it during each of the six months ending Jan. 31st.—Mr. BRODRICK: I am informed that this hospital has remained on the same site for 10 months, but there appears to be no reason for anxiety, as the site has been reported to be perfect and the sanitary reports up to Jan. 18th state that the general sanitary conditions were good. The figures of this hospital are as follows:—viz., August—admissions 220, deaths three; September—admissions 154, deaths none; October—admissions 26, deaths one; November—admissions 48, deaths five; December—admissions 61, deaths three; January to 25th—admissions 93, deaths 12. The admissions in January are mostly of transfers from out-stations. The type of enteric fever is reported in January as severe, many of the cases being practically hopeless from the first. If any doubt is found to exist as to the sanitary condition I will undertake that the situation shall be changed.

Civil Practitioners in South Africa.

Mr. BURDETT-COUTTS asked the Secretary of State for War if he would state with regard to the last 50 civilian surgeons and physicians engaged by the Royal Army Medical Staff Corps for employment in South Africa the length of time for which each had been legally qualified before being sent out.—Mr. BRODRICK replied: 10 were qualified in 1901, 10 in 1900, and nine in 1899; the remaining 21 have been qualified for varying periods going back as far as 1876.

TUESDAY, MARCH 5TH.

Pneumonia on Board the Britannia.

Captain PRETYMAN (Civil Lord of the Admiralty) said, in reply to questions on this subject, that it was true that two cadets and one of the instructors of the *Britannia* had recently died from complications following upon pneumonia and on Sunday last there were 16 cadets ill, two seriously. The cause of the large amount of pulmonary disease was the prevailing epidemic of influenza of a severe type. The hospital was by no means full. The cadets had been granted three weeks' leave and the ship would be thoroughly purified and disinfected while the cadets were away.

Lead-poisoning among House-painters.

Mr. COGHILL asked the Home Secretary whether his attention had been called to the death of Richard Edwards, a house painter of 33, Pinnox-street, Tunstall, caused, as a coroner's jury found, by lead-poisoning; and whether he proposed to introduce any legislation for the protection of house-painters from lead-poisoning.—Mr. RITCHIE: I have inquired into the case and find that it does not come within any Act which I have to administer, and I do not see my way to proposing any such legislation as is suggested.

Plague at the Cape.

Sir WALTER FOSTER asked the Secretary of State for the Colonies whether he could state the number of cases of plague that had occurred at Cape Town, according to his latest advices, distinguishing the number of Europeans and the number of natives attacked; whether at the time of the outbreak of the malady the authorities at Cape Town had an adequate supply of Haffkinine (prophylactic vaccine) and of Yersin's curative serum for dealing with an outbreak, and whether a supply of these materials had since been sent out; and whether he would lay upon the table any reports received from Dr. Edington or Professor Simpson on the relation of the disease in rats to that in human beings.—Mr. CHAMBERLAIN: My information is not complete, but, as stated in the telegraphic bulletins which have been supplied by the Cape Government and published, there was a total of 20 cases for the week ending Feb. 16th and 29 cases remaining under treatment at that date. On Feb. 23rd there were 21 cases remaining under treatment. So far as I am aware there has been one European case. As to the second part of the question I have no information; the matter is one for the responsible Government of the Cape Colony. As to the third part, I have not seen these reports which I understand are being prepared for the information of the Cape Government, and I am not aware that they have been published by that Government.

ROYAL COMMISSION ON ARSENICAL POISONING.

Evidence of Dr. James Niven.

THE Royal Commission on Arsenical Poisoning held another meeting on Friday, March 1st, in one of the rooms of the Westminster Palace Hotel, and examined Dr. James Niven, medical officer of health of the city of Manchester. All the members of the Commission were present and Lord KELVIN occupied the chair.

Dr. NIVEN, in reply to the CHAIRMAN, said that the evidence which he possessed as to the amount of recent exceptional sickness in Manchester attributable to poisoning by arsenic was derived from the answers to a circular sent by him to medical practitioners on Nov. 27th and from statements which had been made in reference to the public institutions of the city. Answers were received from 186 out of a total of 358 medical practitioners, from which it was inferred that not less than 1000 cases had occurred in the experience of the gentlemen who answered the circular. The number estimated by Dr. R. S. Reynolds to have been admitted to the Crumpsall Infirmary was 500. All these would be cases of persons who were at the time of their illness dwelling in the old Township of Manchester, having an estimated population in the year 1900 of 144,139. The number admitted to the Withington Workhouse Infirmary could not have been less than 200, most of whom would be Manchester residents. It was, in his opinion, safe to infer that not less than 2000 cases had been seen by medical men within the last six months. About one-half of the medical men of Manchester did not send any reply to his circular. Their failure to reply he attributed simply to pressure of work, not to any desire to keep cases secret. Many medical men had such an immense amount of work that they were run off their feet and quite tired out in the evening, and he presumed that they simply did not feel equal to sitting down and replying accurately to a document of this description. There were a very large number of causes which gave rise to peripheral neuritis. The reason why one looked upon all or the great majority of these recent cases as having been due to arsenical poisoning was partly the short period within which the illness had begun. It had not been a gradually dawning illness, but an illness marked by a somewhat definite onset, and these cases had all been associated with the drinking of beer or stout. Taking these things into consideration, one regarded at all events the recent cases of peripheral neuritis as mostly due to the influence of arsenical poisoning. There had been no other cause at work that one was aware of. Indeed, the only other cause one could think of was alcoholic poisoning. There could be no doubt that many of the medical practitioners in the early stages of the outbreak looked upon these cases as cases of alcoholic poisoning, between which and cases of arsenical poisoning it was difficult to make a precise and clear distinction. A table had been prepared showing for the city of Manchester the number of deaths from peripheral neuritis, from other neuritis, from chronic alcoholism, from cirrhosis of the liver, from other diseases of the liver, and from gastritis, in each week of the past five years. This table showed that deaths from peripheral neuritis and from other neuritis had been increasing in number since 1898 and that the number of deaths from chronic alcoholism and from cirrhosis of the liver had fluctuated from one year to another but that from each of these causes of death a great increase had occurred in the year 1900. This increase was most marked in the last half of the year and in the case of peripheral neuritis was confined to it. In the last 26 weeks of the year 37 deaths were registered from this cause as against 11 in the first 26 weeks of the year. From chronic alcoholism 66 deaths were registered in the second half of the year as against 43 in the first half of the year. From cirrhosis of the liver 75 deaths were registered in the second half of the year as against 51 in the first half. That arsenical poisoning had in each instance had to do with this increase was certain; that it was responsible for the whole of it could only be determined by a study of the revenue returns, which would show whether there had been a great increase of drinking during 1899 and 1900. If this could be shown, arsenical poisoning would not be excluded, but it would not be possible to regard it as the sole cause of the increase. From an analysis he had prepared it seemed that women died from peripheral neuritis more than men and at an earlier stage. A given quantity of arsenic would have a greater effect on a woman than on a man, and no doubt the drink of women was more exclusively beer and stout than in the case of men. It was a common thing for women to meet in the afternoon and gossip over a pot of beer got from a neighbouring public-house. The exceptional sickness and death had been confined to adults—a circumstance which went far to exclude sweets, jams, bread, &c., as sources of arsenical poisoning. A number of samples of cheap sweets and jams had been examined for arsenic but had been found free from it in appreciable amount. Six samples of cheap wine had been examined but no arsenic had been found in them.

By Dr. WHITELEGGE: Have you any case of peripheral neuritis in which there was no consumption of beer at all?—I believe there is one case. The patient was 47 years of age. The early symptoms were nausea, vomiting in the morning, and pain in the hands and feet and upon pressure of the calf. The observations of the physician at the hospital were that the patient had slight difficulty in walking, dilatation of the right side of the heart, pain in the soles of the feet, excessive sweating of the hands and feet, eruptions, thickening of the skin, and peeling. This patient denied having taken beer. I know the district and street from which this patient comes, and I think it would not be well to attach an undue degree of importance to the denial. In this case the patient recovered.

Dr. NIVEN, in further examination by the CHAIRMAN, said that so far as the observations made at the union infirmaries and other public institutions went, and so far as the testimony of Manchester practitioners went, the symptoms of arsenical poisoning had been confined to persons drinking beer and stout almost exclusively of the cheaper qualities. The exceptions to this statement were trivial. A selection was made of 85 cases, presenting well-marked features, with two or three exceptions, and brief histories of the illness were obtained through Dr. Reynolds at Crumpsall, and Dr. J. S. Orchard at the Withington Workhouse. In 63 of these it was possible to trace the beers habitually used by the patients to the breweries producing them. In every instance the brewery in question had used Bostock's sugars. It had been ascertained that these sugars had been used by 12 out of the 23 Manchester breweries. In the majority of the cases beer from the same brewery, but obtained at public-houses other than those frequented by the patient, was found to contain arsenic in appreciable amount. He could not speak of his own knowledge, but he believed that a large number of cases of peripheral neuritis occurred among the employés of the breweries in Manchester. The highest amount of arsenic ascertained was about one-half grain per gallon, but all the samples examined quantitatively were taken after the sanitary committee had issued a warning to publicans by means of the daily press. 81 samples of beer had been examined by him or under his direction, and of these 27 had been found to contain arsenic. These were all taken after the announcement of the discovery of arsenical poisoning by beer. From analyses which had been published and from those which had been made for him it was evident that the large amounts of arsenic found in samples of beer taken about Nov. 20th and onwards could only have been derived from arsenical glucoses and inverts. The quantities of beer found to produce symptoms of arsenical poisoning and the period within which those symptoms were produced pointed in the same direction. The arsenious acid was introduced into the glucose in the process of conversion from starch by the use of contaminated sulphuric acid and into the invert sugar in the same way. The amounts of arsenious acid found in malt could not have produced the results which had been observed. He was strongly of opinion that there should be no arsenic present in any brewing materials and that there was no justification for its presence. In the case of malt the arsenic got in during the process of kiln-drying. It was, of course, difficult to obtain a fuel absolutely free from arsenic, but the fumes might be kept away from the grain. In any case if arsenic were deposited it ought to be removed just as it ought to be removed from hops. Dr. Niven then offered to the Commission the following suggestions, viz.:—

1. That manufacturers of foods and drinks in the preparation of which chemicals are employed should be required by law to have printed in clear characters on any order sent to the vendor of such chemicals the words "to be used in the manufacture of foods or drinks," as the case might be. The words "foods or drinks" to include materials intended for immediate consumption as well as materials (such as brewers' sugars) to be used in the preparation of foods or drinks.

2. That persons supplying chemicals to be used in the manufacture of foods or drinks should be required by law to affix conspicuously and securely to each consignment of chemicals to be used for such purpose a clear printed statement in adequate size of type that the materials supplied are "for the manufacture of foods or drinks." Such a statement should also be required to be printed on invoices of such consignments.

3. It is suggested that without such a statement conspicuously affixed to any consignment of chemicals it shall be illegal, under a penalty, to use chemicals from such consignment for the manufacture of foods or drinks.

4. As regards malt and hops and other materials used in brewing, it shall be illegal for such materials to be contaminated with arsenic.

5. It is desirable that the Food and Drugs Act should be amended so as to ensure that, in case of any deleterious contamination occurring in beer or stout, it may be possible to trace the source of the contamination, and so to ensure the destruction of the deleterious article.

By Sir WILLIAM HART DYKE, M.P.: The intention with regard to the last suggestion was that the authorities should be able to pass from the retailer to the brewer and thus to get hold of the stock of contaminated beer and have it destroyed.

By Professor THORPE: In his opinion the epidemic was now practically at an end. There was nothing to have prevented him from applying to the city analyst of Manchester for assistance in connexion with this inquiry, but he thought that in matters requiring special skill and very exact and careful investigation involving a great consumption of time it might be an advantage in large towns to have some consulting body such as an institute of public health to refer to for assistance. He was of opinion that the whole of the mischief was attributable to arsenic. The arsenic found was amply sufficient to account for all the mischief.

By Sir WILLIAM CHURCH: He had been told by brewers that even before the alarm about arsenic many people stopped drinking beer because it made them sick, and no doubt the catarrhal symptoms put off the suspicion of arsenic.

By Dr. WHITELEGGE: In the administration of the Sale of Food and Drugs Acts the analyst as a rule would look for adulterations, not for poison, and before this epidemic witness would not have expected an analyst to examine beer for arsenic. If he could prove by samples the presence of arsenic in beer at a brewery he could seize the stock and get it condemned by a justice of the peace, but he did not think he had the same power with respect to a chemical manufactory, because it would be difficult to show that the products were used for food. He was inclined to think that there was no longer any seriously contaminated beer in Manchester.

The Commission then adjourned until Wednesday, March 6th.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

ADAMS, A. J. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Children's Homes, Barnes, Richmond, Surrey.

ADAMS, JOSEPH DIXON, M.D. St. And., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health by the Yeovil Rural District Council.

ANGOVE, E. S., L.R.C.P. Edin., M.R.C.S., has been appointed District Medical Officer to Plaxton Out-relief Union, vice E. W. Mason.

BEVAN, A., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Electrical Department at St. Thomas's Hospital.

BIRKBECK, L. H. C., B.A., M.B., B.Ch. Oxon., has been re-appointed Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital.

BLACK, Major JOHN GRIER, M.D., M.Ch.R.U.I., R.A.M.C., has been appointed to the charge of the Station Hospital at Devonport.

BLEASE, ARTHUR TORKINGTON, L.R.C.P. Lond., M.R.C.S., has been appointed House Surgeon to the Royal Infirmary, Manchester.

BOND, THOMAS FRANCIS, M.D. Lond., M.R.C.S., F.R.S. Edin., has been re-appointed Medical Officer of Health by the Chepstow Rural District Council.

BURFIELD, T., M.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

COATES, C. J. A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Certifying Surgeon under the Factory Acts for the Stokenchurch District of Bucks.

COPE, R., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant House Surgeon to the York County Hospital.

CLARKE, H. H. R., L.R.C.P., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

CUNNINGHAM, J. F., L.R.C.P., M.R.C.S., has been appointed Senior Ophthalmic House Surgeon to St. Thomas's Hospital.

DAVIES, BOWEN W. L., M.R.C.S., L.R.C.P., has been appointed Honorary Medical Officer to the Denbighshire Infirmary, vice T. Lloyd Roberts, resigned.

DAWSON, W. R., M.D., F.R.C.P.I., has been appointed Examiner in Mental Disease in the University of Dublin.

DEWDNEY, E. C. D., L.S.A. Lond., has been appointed District Medical Officer, Williton Union, vice J. Hardie, resigned.

DOUDNEY, G. H., M.B. Durh., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Wainfleet District of Lincolnshire.

DOUGLAS, CLAUDE, F.R.C.S., L.R.C.P., has been appointed Surgeon to the Leicester Infirmary, vice C. H. Marriott, resigned.

DUDGEON, L. S., L.R.C.P., M.R.C.S., has been re-appointed Clinical Assistant in the Electrical Department at St. Thomas's Hospital.

EDMOND, W. R., M.B., C.M. Edin., L.R.C.P. Edin., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Totnes District of Devon.

EDWARD, A. A., M.D. Edin., has been appointed Certifying Surgeon under the Factory Acts for the Borough of Rawtenstall.

EDWARDS, T. H., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

EGLINTON, GEORGE WALTER, L.R.C.P., L.M. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Wells (Somerset) Rural District Council, vice Joshua Charles Smyth, L.R.C.P. Lond., M.R.C.S., resigned.

GORDON, T. R., M.D. Durh., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Towyn District of Merioneth.

GRAY, E. B., M.D. Oxon., President of the Society of Medical Phonographers, has been appointed Consulting Physician to the Oxford County Asylum at Littlemore, vice the late Sir Henry Acland.

GRIMWADE, A. S., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

HARRIS, H. S., L.R.C.P., M.R.C.S., has been appointed Junior Ophthalmic House Surgeon to St. Thomas's Hospital.

HAY, M. B., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon to the North Devon Infirmary, Barnstaple, vice F. Penny, resigned.

HEDLEY, E. W., M.A., M.B., B.C. Cantab., has been appointed Senior Obstetric House Physician to St. Thomas's Hospital.

HUNT, S., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

LOCK, J. L., B.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been appointed Assistant House Physician to St. Thomas's Hospital.

MARTIN, A. E., M.A., M.B., B.C. Cantab., L.R.C.P., M.R.C.S., has been appointed Junior Obstetric House Physician to St. Thomas's Hospital.

MARQUIS, H. A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed District Medical Officer, North Bierley Union, vice W. A. Shillito, resigned.

MENNELL, Z., L.R.C.P., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

MENCE, W. C. L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital.

NITCH, C. A. R., M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

PALMER, W. M., L.R.C.P. Lond., M.R.C.S., has been appointed Certifying Surgeon under the Factory Acts for the Linton District of Cambridgeshire.

PATERSON, T. W. S. M.A., M.B., B.C., has been re-appointed Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital.

PATERSON, T. W. S., M.A., M.B., B.C., has been re-appointed Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

PEARSON, A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed District Medical Officer, Newark Union, vice A. J. Rowbotham, resigned.

RISDON, GEORGE OWEN, L.R.C.P. Lond., L.S.A., M.R.C.S., has been re-appointed Medical Officer for the No. 2 District of the Wells (Somerset) Union.

ROCHE, ANTONY, M.R.C.P. Irel., has been appointed Examiner in Medical Jurisprudence and Sanitary Science in the Royal University of Ireland.

SADLER, F. J., M.B., B.Ch. Oxon., D.P.H., has been appointed Certifying Surgeon under the Factory Acts for the Barnsley District of the West Riding of York.

SAWYER, J. E. H., B.A., M.B., B.Ch. Oxon., has been appointed Assistant House Physician to St. Thomas's Hospital.

SELOUS, C. F., L.R.C.P., M.R.C.S., has been re-appointed House Physician to St. Thomas's Hospital.

SKERRETT, F. B., B.Sc. Lond., L.R.C.P., M.R.C.S., has been appointed House Physician to St. Thomas's Hospital.

STANNUS, H. S., L.R.C.P., M.R.C.S., has been appointed Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

TAYLOR, T. S., M.A., M.B., B.C. Cantab., has been appointed House Surgeon to St. Thomas's Hospital.

THORNE, ATWOOD, M.B. Lond., has been appointed Assistant Surgeon to the London Throat Hospital, Great Portland-street.

WALKER, J. H. S. M.B., C.M. Edin., D.P.H. Aberd., has joined the staff of the Clinical Research Association, Limited, as a Director of the Laboratories.

WATERHOUSE, RUPERT, M.B. Lond., L.R.C.P., M.R.C.S., has been appointed Resident Medical Officer to the Royal United Hospital, Bath.

WILLS, B. S., L.R.C.P., M.R.C.S., has been appointed House Surgeon to St. Thomas's Hospital.

WOODS, W. H. O., M.B., B.C. Cantab., has been appointed Assistant House Surgeon to St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BEDFORD COUNTY HOSPITAL.—House Physician for six months. Salary £25 for that period, with board, lodging, and washing.

BOROUGH HOSPITAL, BIRKENHEAD.—Senior and also Junior Resident House Surgeon. Salary £100 and £80 respectively per annum, with board and washing.

BOROUGH HOSPITAL, Bootle, Liverpool.—Senior Resident. Salary £100 per annum, with board, &c.

CARDIFF INFIRMARY.—Honorary Assistant Surgeon.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Clinical Assistant for three months on payment of £8 8s.

CITY FEVER HOSPITAL, Lodge-road, Birmingham.—Assistant Medical Officer. Salary £140 per annum, with board, residence, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park. Physician to the out-patients. Also Second House Physician for six months. Salary at the rate of £30 per annum, with board and residence.

CITY POORHOUSE AND HOSPITAL, Parliamentary-road, Glasgow.—Junior Assistant Medical Officer. Salary £90 per annum, with board, apartments, &c.

CORPORATION OF LONDON.—Medical Officer of Health, 35 to 50 years of age. Salary £1000 per annum.

CUMBERLAND INFIRMARY, Carlisle.—Resident Medical Officer as House Physician during the first six months, and House Surgeon during the ensuing six months. Salary at the rate of £80 and £100 per annum respectively, with board, lodging, and washing.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House Surgeon for six months. Salary £30, with board, residence, and washing.

GENERAL HOSPITAL, Birmingham.—Surgical Officer. Salary £100 per annum, with residence, board, and washing.

GLASGOW EYE INFIRMARY.—Assistant House Surgeon. Salary £50, with apartments and board.

GREAT NORTHERN CENTRAL HOSPITAL.—Junior House Surgeon for six months. Salary at the rate of £30 per annum, with board, lodging, and washing.

GUEST HOSPITAL, Dudley.—Senior Resident Medical Officer. Salary £100 per annum, increasing to £120, with board, residence, attendance, and washing.

HOSPITAL FOR WOMEN, Liverpool.—House Surgeon for six months. Honorarium £25, with residence.

HULME DISPENSARY, Stretford-road, Manchester.—House Surgeon. Salary £150 per annum, with apartments, attendance, coal, and gas.

KING'S COLLEGE HOSPITAL, Lincoln's Inn-fields, W.C.—Clinical Pathologist.

LIVERPOOL STANLEY HOSPITAL.—Senior House Surgeon. Salary £80 per annum, with board, residence, and washing.

LIVERPOOL WORKHOUSE, Brownlow-hill.—Assistant Medical Officer. Salary £80 per annum, with rations and apartments, and an additional £20 for examining applicants for out-door relief.

LONDON HOSPITAL, Whitechapel, E.—Surgical Registrar. Salary £100 per annum.

LUNATIC ASYLUM, Isle of Man.—Assistant Medical Officer. Salary £100 per annum, with apartments, washing, and board.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer, unmarried, for six months, eligible for election as Senior for another six months. Salary at rate of £80 a year as Junior and £100 a year as Senior, with board and lodging.

MANCHESTER PORT SANITARY AUTHORITY.—Port Medical Officer. Salary £350 per annum.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officers, unmarried, not over thirty-five years of age, at the Fever and Small-pox Hospitals. Salary £160 per annum, rising to £200, with board, lodging, attendance, and washing.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon for six months. Salary at the rate of—House Physician and House Surgeon, £40 a year; Assistant House Physician and Assistant House Surgeon, £20 a year.

NEW HOSPITAL FOR WOMEN.—Female Anæsthetist.

NORFOLK AND NORWICH HOSPITAL, Norwich.—House Surgeon, unmarried, not over thirty years of age. Salary £80 per annum, with board, lodging, and washing.

NORTHAMPTON GENERAL INFIRMARY.—Physician, not under twenty-five years of age.

NORTHERN INFIRMARY, Inverness.—House Surgeon. Salary £100, with board, &c.

NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Dental Surgeon.

NOTTINGHAM GENERAL DISPENSARY.—Assistant Resident Surgeon. Salary £140 per annum, all found except board.

PARISH COUNCIL OF WESTRAY, Orkney.—Medical Officer and Public Vaccinator. Salary £90 per annum.

PATHOLOGICAL LABORATORY (UNIVERSITY OF CAMBRIDGE).—John Lucas Walker Studentship.—Annual value £200, tenable under certain conditions for three years.

PRESTON ROYAL INFIRMARY.—Junior and Assistant House Surgeons. Salaries £80 and £60 per annum respectively, with board, lodging, and washing, &c.

SUTHERLAND HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ROYAL ALBERT HOSPITAL, Devonport.—Resident Medical Officer, unmarried. Salary £110 per annum, with board and lodging.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—Resident Medical Officer, for six months. Salary at the rate of £120 per annum, with furnished apartments, board and washing.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Ventnor.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging in the hospital.

ROYAL SEA BATHING HOSPITAL, Margate.—Assistant Resident Surgeon. Salary £80 per annum, with board and residence.

RURAL DISTRICTS COUNCILS OF EPSOM AND DORKING AND THE URBAN DISTRICT COUNCILS OF CARSHALTON, DORKING, EPSOM, AND LEATHERHEAD.—Medical Officer of Health.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London, E.C.—House Surgeon. Salary £80 per annum, with board, lodging, and washing.

SUFFOLK GENERAL HOSPITAL.—House Surgeon. Salary £100 a year, with board, lodging, and washing.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies as Certifying Surgeons under the Factory Acts at Coningsby in the County of Lincoln and at Woking in the County of Surrey.

THROAT HOSPITAL, Golden-square, W.—Non-resident House Surgeon. Salary £100 per annum, with lunch.

TORBAY HOSPITAL, Torbay.—House Surgeon. Salary £100 per annum and £5 for the nurses' lectures. Board, lodging, washing, &c.

TOWER HAMLETS DISPENSARY, Stepney, E.—Resident Medical Officer. Salary £120 per annum, furnished rooms, coals, gas, and attendance.

TUNBRIDGE WELLS GENERAL HOSPITAL.—Resident House Surgeon, unmarried. Salary £100 per annum, with board, furnished apartments, &c.

VICTORIA HOSPITAL FOR CONSUMPTION, Craigleith, Edinburgh.—Resident Physician, for six months. Residence, board, and a small honorarium to cover conveyance.

WALTHAMSTOW URBAN DISTRICT COUNCIL.—Resident Medical Officer for the new Isolation Hospital at Chingford. Salary £120 per annum, with board and lodging.

WARNEFORD HOSPITAL, Leamington.—House Surgeon. Salary £100 per annum, with board, washing, and apartments.

WARNEFORD ASYLUM, Oxford.—Assistant Medical Officer, unmarried. Salary £100 a year, with board, lodging, and washing.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and also House Surgeon for six months. Board and lodging provided.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.—Lecturer on Biology.

WOOLWICH INFIRMARY, Plumstead.—Assistant Medical Officer, unmarried, not over 30. Salary £150 per annum, with apartments, rations, and washing.

Births, Marriages, and Deaths.

BIRTHS.

MURISON.—On March 5th, at 6, Pier-road, Erith, Kent, the wife of W. R. Murison, L.R.C.P. & S. Edin., of a son.

WAINEWRIGHT.—On Feb. 27th, 1901, at 49, Wickham-road, Beckenham, Kent, the wife of Robert S. Wainewright, M.D. Lond., of a son.

WHITE.—On March 5th, at Westlands, Upper Richmond-road, Putney, S.W., the wife of H. F. White, F.R.C.S., of a daughter.

WROUGHTON.—On March 3rd, at Wetheral, near Carlisle, the wife of William Haultain Wroughton, M.R.C.S., L.R.C.P. Lond., of a daughter.

MARRIAGES.

MURSELL—THOMSON.—On Feb. 18th, at St. Stephen's Church, Gloucester-road, S.W., Henry Temple Mursell, M.B., F.R.C.S., elder son of the Rev. Arthur Mursell, to Helen Foggo, second daughter of the late James Thomson, of Edinburgh.

VINCENT—PEPPIATTE.—On the 4th inst., at St. Marylebone Church, by the Rev. E. W. Raby, M.A., Ralph Vincent, M.B., B.S., M.R.C.P., of 1, Harley-street, W., eldest son of Ralph Vincent, of Leytonstone, to Mary, only daughter of Pelet Peppiatte, of Ware.

DEATHS.

BERRY.—On Tuesday, March 5th, at Margate, Sydney H. Berry, M.B. Lond., F.R.C.S. Eng., of 90, Kellett-road, Brixton, S.W., aged 27. (Recently of Charing Cross Hospital).

BEVAN.—Feb. 25th, at Cheltenham (suddenly) John Paul Bevan, M.R.C.S., L.R.C.P., son of the late Rev. John Bevan, aged 52 years.

CHEYNE.—At 75, Harley-street, W., on Feb. 22nd, Julia Millicent, daughter of W. Watson Cheyne, aged 9 months.

GODFREY.—On Feb. 27th, Graham Philip Godfrey, L.R.C.P., L.R.C.S. Edin., aged 40, son of the late Thomas Godfrey of Mansfield.

GRIFFITH.—On March 3rd, at Grace's-road, Camberwell, John William Griffith, M.D., aged 82.

WHITE.—On Feb. 27th, Samuel Shapland White, M.D., of Queen's-road, Tunbridge Wells.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

INTERFERENCE.

To the Editors of THE LANCET.

SIRS,—I hold the appointment of medical officer to a small convalescent home for soldiers. The home is managed by a committee with a lady secretary. In the course of my treatment of one of the men the lady secretary (on her own responsibility apart from the committee) wrote requesting me to hold a consultation over the case. I refused, on the ground that I was the fit person to judge when this should be necessary and that the suggestion should come from me. The matter was referred to the committee, when the chairman, an eminent military surgeon, disagreed with me. I should be very much obliged if you would tell me what you think of the matter and if, in your opinion, I exceeded my right.

I am, Sirs, yours faithfully,

March 5th, 1901. M.R.C.S.

*** The medical man in charge of a patient is the proper person to decide if a consultation is necessary. If the patient himself or any of his relations or intimate friends suggest a consultation the medical man should be ready to fall in with the idea. No one else should interfere in the matter.—ED. L.

THE FIDGETS.

To the Editors of THE LANCET.

SIRS,—In reply to H. M. W. D. in THE LANCET of Feb. 16th, page 524, warmth, if persevered in, will cure the "fidgets." Warm cycling knickers should be worn and also warm woollen stockings with putties or well-fitting gaiters. Knitted woollen knee-caps must be worn at night. Give half a grain of opium daily two hours before usual time of attack of "fidgets." Massage to abdomen and lower extremities might do good in this case.

I am, Sirs, yours faithfully,

Feb. 25th, 1901. I. M. S.

PUBLIC DINNERS WITHOUT WINE.

To the Editors of THE LANCET.

SIRS,—I have read with much interest your leading article "Legislation against National Intemperance" in THE LANCET of Feb. 9th, p. 410. Might I suggest that the officials of the London medical schools would be helping the cause of temperance amongst medical students if they ceased to force alcohol down their throats (as it were) at their annual dinners? I have for the last eight or 10 years regularly protested against the guinea tickets *including wine* which are issued for the annual dinner of my old alma mater (University College), and to which first year's medical students are so cordially invited, but up till now no change has been made. Equally good dinners can be arranged without compulsory wine. The British Medical Association always issues dinner tickets *without wine*, but medical students are not invited to these functions.

I am, Sirs, yours faithfully,

Harley-street, Feb. 14th, 1901. BERNARD ROTH.

MEDICAL FEES AT CORONERS' INQUESTS.

To the Editors of THE LANCET.

SIRS,—Can you or any of our medical coroners give me information on the following questions? Has a coroner elected by the county council power to summon a medical witness and to disallow his fee when he has given medical testimony? Secondly, if a coroner has no such power can I sue him or the county council? What is my remedy, the coroner having disallowed my fee?

I am, Sirs, yours faithfully,

March 5th, 1901. FELLOW.

*** It is not unknown for a coroner in certain circumstances to refuse fees to a medical witness. His power to do so in a particular case can only be ascertained by legal action. The proceedings should be against the coroner and should only be undertaken with legal advice.

"NEW EDITIONS OF SCIENTIFIC WORKS."

To the Editors of THE LANCET.

SIRS,—In the last number of THE LANCET that reached me (issue of Dec. 1st, 1900) I notice an editorial comment on the letter of a correspondent on New Editions of Scientific Works. Your correspondent's proposal for the printing of appendices (containing *all the corrections, additions*, and *new illustrations* in revised editions of standard works) is not so difficult as you seem to think. The printing of a good appendix would of course necessitate the setting up of the type separately, but the publishers could readily adjust the price of the appendix to the cost of production, and so far from the venture being a financial loss I am convinced it would add considerably to the profits of the book. Surely a book that can be issued at, say, 15s., could have an appendix published at a profit if sold for two or three shillings, or more, according to the expense o

production. Under existing circumstances many medical men of limited means cannot afford to continue buying each new edition of standard works, many of which appear every two or three years, whereas they would gladly pay a reasonable sum for a good appendix. The latter would, of course, be of no use to purchasers who did not possess an original copy of the book, and the sale of the corrections separately could not therefore interfere in any way with that of the work itself. As it is, many of us prefer to buy an entirely new work on a given subject to purchasing the new edition of an old work at a high price. Trusting that some publisher with a quick perception of his own interests as well as of the needs of his *clientèle* will see these remarks and put the venture to the test,

I am, Sirs, yours faithfully,

VICTOR E. H. LINDESAY, Capt. I.M.S.

China Expeditionary Force, IV Goorkhas,
Shanghai, Jan. 20th, 1901.

THE DUTIES OF SURGERY ATTENDANTS.

To the Editors of THE LANCET.

SIRS,—Would any of your readers kindly tell me what are the usual duties of a surgery attendant in a general practice and the usual salary?

I should also be glad to know if anyone has tried army dispensers in the surgery, and whether they were a success, and what salary was given.

I am, Sirs, yours faithfully,

March 5th, 1901. MEDICUS.

SECRET COMMISSIONS AND THE MEDICAL PROFESSION.

A MEDICAL man residing in one of the largest towns in the North of England has sent us the following circular which he received from a firm of surgical appliance makers in the town:—

> DEAR SIR,—In order that patients needing surgical apparatus may obtain the greatest possible comfort and support we adapt every appliance to the special requirements of each particular case. We do not, therefore, supply such apparatus wholesale, but allow the profession 20 per cent. discount, being the difference between the wholesale and retail prices. The patient is in all cases required to pay cash and is charged exactly the same whether recommended by a medical man or not. This method, whilst a saving of time to the medical attendant, ensures greater comfort and security to the patient. Any cases you may send us shall have our careful attention; a note or card should be sent with each case for identification.
>
> We are, faithfully yours,
>
> Discount remitted monthly. —— & ——.

We consider that this method of doing business is most reprehensible. It is neither more nor less than the offer of a bribe to a medical man to send patients to the firm in question instead of to the firm whose work they consider best. Such an offer is an insult and any firm adopting such methods must not be surprised at finding itself suspected of selling inferior goods.

CONSULTATIONS WITH HOMŒOPATHISTS.

Medicus writes: "Would you please to state the rule respecting a medical man meeting in surgical or medical cases a general practitioner who is, or states that he is, a homœopathic practitioner. Is it correct for the medical man to meet the homœopath at all? Is it right for a surgeon to come in consultation and perform operations for him? I am not aware that there is a homœopathic consultant within any reasonable distance of the small town mentioned."

*** It is not right for a medical man to meet practitioners who follow homœopathic lines in consultation. The tenets of homœopaths are founded on a completely false conception of disease; there is therefore no common ground upon which medical men can meet them for any discussion which would be of advantage to the patient.—ED. L.

A Subscriber to THE LANCET *since 1886* is thanked for his information. The advertisement in question had already been investigated and suppressed by ourselves. It is not at all surprising that occasionally advertisements of this character should get into our columns, as their nature is always more or less disguised.

Enemy.—Under the circumstances detailed our correspondent is, in our opinion, entitled to the payment of notification fees. In our pamphlet dealing with the difficulties arising under the Notification Act, page 20 *et seq.*, the matter is fully dealt with.

Suspended Animation.—Cheyne's case of Colonel Townshend is quoted by Aytoun, in the "Lays of Scottish Cavaliers and Other Poems" in the introduction to a poem entitled Hermotimus.

Davos Platz.—There is no such book, but the matter is one upon which our correspondent's medical adviser can give an opinion.

L. J. will find the information that he requires in the last Students' Number of THE LANCET, published September 1st, 1900.

B. D.—The householder is not responsible for medical attendance upon his servants unless he expressly offers to pay for it.

A. M. W. urges in strong language precepts which will be found in our columns *passim*.

J. R. P.—We cannot deviate from our practice.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (11th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (12th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

WEDNESDAY (13th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (14th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

FRIDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

SATURDAY (16th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (11th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Dr. R. J. A. Berry (Edinburgh): A Lantern and Microscopic Demonstration on the True Cæcal Apex: being an Attempt to Prove that the Vermiform Appendix is not a Vestigial Structure.

TUESDAY (12th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—Address:—Prof. S. Woodhead: Immunity. Prof. Wright (Netley) and Mr. T. J. Bokenham will take part in the discussion.

CHELSEA CLINICAL SOCIETY (Jenner Institute of Preventive Medicine, Grosvenor-road, Chelsea).—8.30 P.M. Annual Clinical Debate:—The Clinical and Pathological Relations of the Chronic Rheumatic and Rheumatoid Affections to Acute Infective Rheumatism.

PHARMACEUTICAL SOCIETY OF GREAT BRITAIN (17, Bloomsbury-square, W.C.).—8 P.M. Mr. M. W. Allen and Mr. E. T. Brewis: Notes on some Essential Oils.—Mr. J. C. Umney: Copaiba of Commerce.—Mr. J. S. Ward: An Adulterant of Stramonium Leaves.

WEDNESDAY (13th).—HUNTERIAN SOCIETY (London Institution, Finsbury-circus, E.C.).—8.30 P.M. Mr. J. Cantlie: Plague (illustrated with lantern slides). (All members of the profession are invited.)

THURSDAY (14th).—CHILDHOOD SOCIETY (Library of the Sanitary Institute, 72, Margaret-street, W.).—4.30 P.M. Annual Meeting. 8 P.M. Prof. H. L. Withers: Examinations in their Relation to Mental Growth.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.—8 P.M. Cases, &c. 8.30 P.M. Papers:—Dr. Eldridge-Green: Evolution of the Colour sense.—Mr. T. P. Teale: On the Value of Peritomy in certain Cases of Iritis, Episcleritis, and Purulent Ophthalmia.—Mr. J. F. Bullar: Notes on a Case of Membranous Conjunctivitis.—Major H. Herbert, I.M.S.: (1) A Note on the Surface of the Normal Cornea; (2) Hypertrophy and Ossification of Tarsus.

BRITISH GYNÆCOLOGICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Mr. F. Jordan, Dr. H. Macnaughton-Jones, and Mr. C. Ryall. Paper:—Mr. W. R. Williams: Pathology and Treatment of Uterine Tumours during the Nineteenth Century.

GOLDSMITHS' INSTITUTE CHEMICAL SOCIETY (New Cross, S.E.).—8 P.M. Dr. J. Eyre: Antitoxic Sera, their Preparation and Standardisation.

FRIDAY (15th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (Belgrave Hospital for Children, 79, Gloucester-street, S.W.).—6.30 P.M. Cases will be shown by Dr. G. Carpenter, Dr. W. Ewart, Mr. C. T. Dent, Mr. E. T. Collins, Mr. F. Jaffray, and Dr. E. Cautley. Paper:—Dr. H. Ashby (Manchester): On a Case of Congenital Acute Nephritis.

EPIDEMIOLOGICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8.30 P.M. Papers:—Dr. N. P. Schierbeck (Copenhagen): The Enteric Fever Mortality in Copenhagen from 1885-1898.—Dr. J. T. R. Davison: The Effect of Sewerage and Water Supply upon the behaviour of Enteric Fever in Buenos Ayres.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

SUNDAY (10th).—SUNDAY AFTERNOON FREE LECTURES (South-place Institute, South-place, E.C.).—4 P.M. Mr. C. W. Thies: The Hospitals of London (with lantern illustrations).

MONDAY (11th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. P. Furnivall: The Pathology, Diagnosis, and Treatment of the various Neoplasms of Stomach and Intestine.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. T. C. Fox: Consultation. (Skin.)
WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. Edwards: Rectal Stricture and Ulceration.

TUESDAY (12th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. S. Taylor: Consultation. (Medical.)
THE BROWN ANIMAL SANATORY INSTITUTION (University of London, South Kensington, S.W.).—5 P.M. Dr. J. Rose Bradford (Professor-Superintendent): The Protozoa in their Relation to Disease, with especial reference to the so-called Tsetse-Fly Disease of South Africa.
ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Dr. A. Macfadyen: The Cell as the Unit of Life.
LONDON TEMPERANCE HOSPITAL (Hampstead-road, N.W.).—2 P.M. Dr. P. Parkinson: Clinical and Pathological Demonstration.

WEDNESDAY (13th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. P. Furnivall: The Pathology, Diagnosis, and Treatment of the various Neoplasms of the Stomach and Intestine.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Berry: Consultation. (Surgical.)
LONDON THROAT HOSPITAL (204, Great Portland-street, W.).—5 P.M. Mr. Waggett: Diseases of the Accessory Sinuses. (Post-Graduate Course.)
HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Mr. S. Boyd: Sugical Cases in the Wards.
THE SANITARY INSTITUTE, (Parkes Museum, Margaret-street, W.).—8 P.M. Discussion on Ventilation, Success and Failures of the Methods at present in use (to be opened by Dr. C. Child.)

THURSDAY (14th).—LONDON TEMPERANCE HOSPITAL (Hampstead-road, N.W.).—2 P.M. Dr. S. Fenwick: Clinical and Pathological Demonstration.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson: Consultation. (Surgical.)
THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. Lees: Demonstration of Selected Cases.
THE HOSPITAL FOR DISEASES OF THE SKIN (Stamford-street, Blackfriars).—3 P.M. Clinical Demonstration: Dr. P. S. Abraham.
WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Dr. Robinson: The Diagnosis of Abdominal Swellings.

FRIDAY (15th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. P. Furnivall: The Pathology, Diagnosis, and Treatment of the various Neoplasms of the Stomach and Intestine.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. D. Grant: Consultation. (Ear.)
ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Major A. St. Hill Gibbons: Through the Heart of Africa from South to North.

EDITORIAL NOTICES.

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Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

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Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1900, which was completed with the issue of Dec. 29th, and the Title-page to the Volume were given in THE LANCET of Jan. 5th.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 7th, 1901.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 1	29·07	S.W.	0·19	84	53	42	45	46	Cloudy
" 2	29·22	SSW	0·02	82	54	40	42	44	Overcast
" 3	29·19	SSW	0·16	78	49	40	47	49	Cloudy
" 4	29·76	S.W.	0·06	66	54	38	40	41	Overcast
" 5	29·60	S.W.	0·19	89	56	41	49	50	Raining
" 6	29·58	S.W.	0·09	73	48	42	43	46	Cloudy
" 7	29·22	N.W.	0·20	74	49	42	42	43	Raining

During the week marked copies of the following newspapers have been received:—*Birmingham Weekly Post, Brighton Daily News, Fife Advertiser, Dundee Advertiser, Glasgow Herald, Southport Visitor, Rugby Advertiser, Middlesex Times, Exeter Times, Sheffield Telegraph, Plymouth Mercury, Scotsman, Citizen, Architect Times of India, Pioneer Mail, Builder, Liverpool Daily Post, Bristol Mercury, Yorkshire Post, Manchester Guardian, Leeds Mercury Sanitary Record, Eastern Morning News, Hull Weekly Free Press, Aberdeen Herald, Leighton Buzzard Observer, Weymouth Telegraph, Penrith Observer, Lynn News, Melbourne Age, Essex Telegraph, Lowestoft Standard, Batley News, Normanton Herald, Home Chat, Mining Journal, Felixstowe Visitors' List, City Press, Reading Mercury, Hertfordshire Mercury, Sheerness Guardian, Bradford Daily Argus, Local Government Journal, Surrey Advertiser, Australasian Medical Gazette, Local Government Chronicle, North Devon Herald, Cleveland Mercury, Kent County Examiner, Daily Express, London, Oxford Chronicle, Malvern Advertiser, Abergavenny Chronicle, Leith Observer, &c., &c.*

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The Manager cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

Cheques and Post Office Orders (crossed "London and Westminster Bank, Westminster Branch") should be made payable to the Manager, Mr. CHARLES GOOD, THE LANCET Office, 423, Strand, London, to whom all letters relating to Advertisements or Subscriptions should be addressed.

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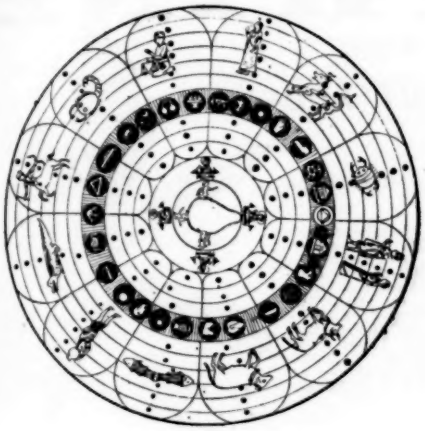
Z No. 23



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℞ Ammonii Chloridi	...	... gr. 1
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Pulv. Cubebæ	...	... gr. 1/4
Ext. Glycyrrhizæ	...	... gr. 1

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